

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ART+COM INNOVATIONAL POOL,) Trial Volume 4
GmbH,)
Plaintiff,)
v.) C.A. No. 14-217-RGA
GOOGLE INCORPORATED,)
Defendant.)

Wednesday, May 25, 2016
8:32 a.m.
Courtroom 6A

844 King Street
Wilmington, Delaware

BEFORE: THE HONORABLE TIMOTHY B. DYK,
United States District Court Judge

APPEARANCES:

FARNAN LLP
BY: BRIAN E. FARNAN, ESQ.
BY: MICHAEL J. FARNAN, ESQ.

-and-

BAKER & BOTTS
BY: SCOTT F. PARTRIDGE, ESQ.
BY: MICHAEL A. HAWES, ESQ.
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Counsel for the Plaintiff

1 APPEARANCES CONTINUED:

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4 MORRIS, NICHOLS, ARSHT & TUNNELL
5 BY: JACK B. BLUMENFELD, ESQ.

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7 O'MELVENY MYERS, LLP
8 BY: DARIN SNYDER, ESQ.
9 BY: LUANN L. SIMMONS, ESQ.
10 BY: BRETT WILLIAMSON, ESQ.

11 Counsel for the Defendants
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1 THE COURT: Is there anything we
2 need to discuss before we address the
3 hypothetical negotiation date?

4 MR. PARTRIDGE: Your Honor, the
5 only thing I would raise is that there are some
6 objections with respect to testimony that the
7 Defendant has proffered, but I think we can deal
8 with those briefly at lunchtime, so I think we
9 should probably deal with the damage issue first
10 this morning.

11 THE COURT: All right.

12 MR. SNYDER: I'm not aware of
13 anything other than the objections to deposition
14 testimony.

15 THE COURT: Okay. I read the
16 briefs that both sides have submitted on the
17 hypothetical negotiation date which were quite
18 helpful. I've concluded first of all that
19 contrary to Plaintiff's argument, there's been
20 no waiver with respect to the issue by Google
21 and no impropriety in raising the issue when
22 they raised the issue.

23 So let's move onto the merits.
24 With respect to the merits, it seems to me that

1 there's been no showing that the patent was not
2 substantially identical in its later iterations
3 after the two reissues compared to the original
4 patent and there's been no showing in my view
5 that the Google product was materially different
6 in 2005 than in 2010. So my ruling is that the
7 hypothetical negotiation date, as I suggested
8 earlier, is 2005.

9 The question is whether there can
10 be any reference to a 2010 date in the testimony
11 of the experts on the subject. And my view is
12 that referring to a 2010 hypothetical
13 negotiation date would be extremely confusing to
14 the jury, but I'll hear argument on that
15 question briefly.

16 MR. HAWES: So Your Honor, we
17 agree and would not tell the jury that the
18 hypothetical negotiation would have been in
19 2010. That is not our plan. However, I think
20 that there are facts in 2010 that are relevant
21 to what would have happened in 2005 and that we
22 ought to be able to present those. And I would
23 note for Your Honor that the tenth factor of the
24 parties' agreed final jury instruction with

1 regard to the reasonable royalty rate is the
2 extent to which Google has made use of the
3 invention and any evidence that shows the value
4 of that use. And kind of by definition that all
5 has to happen after the hypothetical negotiation
6 because that use is the alleged infringement.
7 So all the evidence concerning that use and the
8 value of that use is going to be up in 2008,
9 2009, 2010.

10 THE COURT: You're talking about a
11 book of wisdom theory here?

12 MR. HAWES: No, Your Honor. I
13 think the factor specifically talks about the
14 value of the use, and that use occurs after the
15 hypothetical negotiation date. There is no use
16 of the invention before the hypothetical --

17 THE COURT: Are you familiar with
18 the book of wisdom?

19 MR. HAWES: I am, Your Honor, yes.

20 THE COURT: Well, why isn't that
21 what this is?

22 MR. HAWES: I think there's an
23 overlap there. The book of wisdom talks about
24 using what's afterwards to get inside the head

1 at the time and I think the book of wisdom has
2 more often be used to say when you get to factor
3 13, the hypothetical negotiation factor, you can
4 look at future events to decide how they would
5 have negotiated. That's kind of the book of
6 wisdom. All I'm saying, Your Honor, is there's
7 an independent factor, factor 10 that also makes
8 that information relevant.

9 THE COURT: Okay. Mr. Snyder.

10 MR. SNYDER: Couple of things,
11 Your Honor. First, I agree with Plaintiff that
12 a reference to a 2010 hypothetical negotiation
13 date would be extremely prejudicial. Doesn't
14 seem to be a dispute.

15 THE COURT: I think it's been
16 agreed that that's not going to happen and it
17 would be confusing to the jury. I wouldn't
18 permit it under Rule 403.

19 MR. SNYDER: Then the question is
20 what period of time and what events during that
21 period of time can reasonably be referenced and
22 for what purpose given a 2005 hypothetical
23 negotiation? The book of wisdom is often
24 applied in the context of actual revenues, so

1 that you can apply a rate to those actual
2 revenues and move forward and make a damages
3 determination. What Mr. Nawrocki tried to do is
4 take some projections regarding revenues, not
5 related to Earth, but related to a bunch of
6 other products, and not use them for the royalty
7 base. He uses them as part of an extended
8 calculation to determine a royalty rate, which
9 is completely different. So at the time of the
10 hypothetical negotiation in 2005, what would the
11 parties have considered? And there's certainly
12 a fair range of dates around that, but the
13 product has just been issued in 2005, and Mr.
14 Nawrocki is going to want to go into 2010, 2011
15 to try and take those dates, take projections
16 based on at the times of those dates for
17 different products, not Earth, and apply those
18 to something in 2005. And that can't be
19 permitted and would be extremely prejudicial.

20 THE COURT: I think the difficulty
21 is that it's hard for me to understand what's
22 going on here and what the two of you are
23 talking about and until I see what Mr. Nawrocki
24 is planning to do. At the same time, I don't

1 want to put evidence in front of the jury that
2 I'm eventually going to have to strike because
3 it's irrelevant or should be excluded under Rule
4 403. Can the two of you help me understand
5 better what we're arguing about here?

6 MR. SNYDER: I'll defer to the
7 Plaintiffs for description of what they plan for
8 Mr. Nawrocki to do, because frankly I don't
9 know, Your Honor.

10 MR. HAWES: Your Honor, they've
11 objected to the very -- they have our
12 demonstratives, they've got the charts, they
13 know what the information is.

14 THE COURT: They may have it. I
15 don't. I don't know what's going on.

16 MR. HAWES: Fair enough, Your
17 Honor.

18 THE COURT: It's very hard for me
19 to make a ruling unless I do understand what's
20 going on.

21 MR. HAWES: So Google has business
22 plans in 2008, 2010 that talk about the various
23 ways in which their monetizing. This was the
24 issue that Your Honor addressed in the motion

1 for the argument. But there were various items
2 that we believe are linked to Google Earth and
3 that yes, you have to apportion, because it's
4 not, it's not that Google Earth has a one to one
5 direct consumer driving revenue relationship,
6 but that there are those items and that in view
7 of what eventually occurred, the parties in 2005
8 could have understood that look, Google Earth in
9 view of Google strategy is going to be
10 developing advertising. The 2010 and 2008
11 business plans just tell us the particular ways
12 in which that actually happened, the value of
13 the invention that Google actually got.

14 MR. HAWES: He should be allowed
15 to discuss that as part of discussing what the
16 parties would have understood and agreed to in
17 2005. Not as this is the money we're going to
18 get, but this is the rate we should pay to see
19 if we can achieve that.

20 And if the parties with have
21 agreed to a certain rate for the use of the
22 invention so they could try to achieve the goals
23 that Google had for Google Earth. But it is
24 specifically in terms of evidence, Your Honor, a

1 business plan in 2008 and a business plan in
2 2010.

3 THE COURT: They couldn't have
4 known about a 2008 or a 2010 business plan in
5 2005. What's the relevance of that?

6 MR. HAWES: The relevance of that
7 is to Factor 10 of the agreed factors that the
8 parties have agreed to which is the value of the
9 use of the invention to Google. That is a
10 factor that we have agreed to as part of the
11 jury instructions.

12 THE COURT: I don't see that that
13 factor suggest that you can use later
14 information in determining what the parties
15 would have done in 2005. And the Book of Wisdom
16 may allow some limited use of later data, it's a
17 confusing doctrine, I don't know how far it
18 goes, but I don't understand the Book of Wisdom
19 would allow you to use projections from later
20 years to determine what people would have done
21 in 2005.

22 MR. HAWES: Well, these business
23 plans, Your Honor, do include data and
24 projections, so the table that was presented to

1 you showed the data for a particular years and
2 then projections for other years.

3 THE COURT: What is
4 Mr. Nawraocki's theory going to be about what
5 the reasonable royalty rate would have been,
6 what reasonable royalty rate would have been
7 agreed to in 2005? What is he going to say
8 about that?

9 MR. HAWES: He's going to say
10 there would have than at least one-and-a-half
11 pennies per use.

12 THE COURT: What's the basis for
13 that?

14 MR. HAWES: A basis for that is
15 the analysis of the expected revenue that Google
16 was expecting to receive from the advertising
17 that we showed in the strategy documents that we
18 showed to the jury as well as the Google
19 documents that showed an increase in the ad
20 revenue for Google.com and the identified
21 amounts of I believe it's eight categories of
22 such ad revenue. And that ad revenue is showing
23 2008 and 2010, so those are the Book of Wisdom.

24 THE COURT: What is the relevance

1 of projections from 2008 and 2010 as to what the
2 parties would have agreed to in 2005?

3 MR. HAWES: Both experts used --
4 if you looked at --

5 THE COURT: I don't care what both
6 experts did. Tell me what the experts did --

7 MR. SNYDER: Your Honor,
8 Mr. Nawraocki is here. I'm very sorry to
9 interrupt the Court.

10 THE COURT: Yes. Mr. Nawraocki
11 should not be here.

12 MR. HAWES: Your Honor, I didn't
13 realize he was here.

14 THE COURT: That is unfortunate.
15 Go ahead.

16 MR. HAWES: So Mr. Nawraocki --
17 Your Honor, there are specific categories of
18 advertising revenue. So Google categorizes the
19 way it receives the advertising revenue. One
20 example I think Your Honor referenced in the
21 order was IPGO, which we have actually heard a
22 witness testify is the marginal increase in
23 revenue that occurs because there is knowledge
24 about the location of the person who is --

1 THE COURT: I understand that
2 theory. I do not understand what projections
3 from 2008 and 2010 have to do with what the
4 reasonable royalty rate would have been agreed
5 on in 2005.

6 MR. HAWES: We believe they're the
7 best evidence of the value of the use of the
8 invention that Google anticipated when it bought
9 Google Earth. It's the reason they put Google
10 Earth into their system was because they
11 anticipated they could grow advertising.

12 We did have and presented to the
13 jury the documents that show Google's
14 anticipation from as early as January 2006 which
15 is only a few months after the hypothetical
16 negotiation date in 2005 that they were going to
17 have an increase in advertising revenue as a
18 result of growing the users of the Google system
19 including Google Earth. Google Earth is named
20 in that document.

21 THE COURT: I'm not going to allow
22 you to use 2008 and 2010 revenue projections to
23 determine what the hypothetical negotiation
24 would have yielded in 2005. I'm not at this

1 moment ruling about something from 2006 which
2 may be close enough in time to 2005 to be
3 relevant, if that clarifies it for you.

4 MR. HAWES: It does. Can we
5 consult with the team and see how this affects
6 the trial, Your Honor?

7 THE COURT: Of course.

8 MR. PARTRIDGE: We would like
9 maybe five minutes to confer, Your Honor. We
10 may have a request to make to you as a
11 consequence of this.

12 THE COURT: Why don't we recess
13 until ten of.

14 (A brief recess was taken.)

15 THE COURT: Be seated, please.

16 MR. PARTRIDGE: Your Honor, this
17 is obviously a rather difficult issue and one
18 that has surprised us.

19 THE COURT: I don't see how it
20 could have surprised you. We have been talking
21 about the 2005 date for some time.

22 MR. PARTRIDGE: I understand what
23 you're saying, Your Honor, but in terms of
24 preparing for this particular trial up until the

1 last few weeks, this was not something we
2 contemplated as a possibility. That's from our
3 standpoint. I understand you may disagree with
4 that, but that's the way we saw it coming into
5 this.

6 The issue that has been raised by
7 this morning's discussion is one that I think
8 requires us to spend with your permission a few
9 minutes discussing with Mr. Nawrocki the changes
10 that we would have to make to his testimony.

11 I understand that's unusual, but
12 given this particular circumstance, I think we
13 need a little time to discuss that with him so
14 that when we go forward, he has some
15 understanding as to the things we're now
16 skipping that we had contemplated including in
17 his testimony.

18 So I would ask permission to
19 discuss this with Mr. Nawrocki before we
20 proceed. It probably would take ten or fifteen
21 minutes to do so.

22 We are contemplating going forward
23 following your order without making a request at
24 this moment for any other type of relief, but I

1 would request the Court's permission to have
2 fifteen or twenty minutes to discuss this issue
3 with Mr. Nawraocki so that we can formulate a
4 plan for going forward that is different than
5 what has been contemplated by us up to this
6 point in time.

7 THE COURT: Well, even though I
8 think you should have anticipated this, I'm
9 inclined to allow you to do that. Is there any
10 objection, Mr. Snyder?

11 MR. SNYDER: Your Honor, I do
12 object for two reasons. First, Mr. Nawraocki
13 has started his testimony, so communication with
14 him is improper. But second and most
15 importantly, his opinions that he could offer at
16 this trial are disclosed in his report. He's
17 not allowed to go beyond that. So if they're
18 going to go and plot some new testimony by
19 Mr. Nawraocki, then it is by definition going to
20 go beyond what is in his report and it shouldn't
21 be allowed.

22 They can ask him questions, he can
23 answer the questions. They don't need to go
24 over with him in advance what questions are

1 going to be excised or how they're going to
2 change them.

3 THE COURT: I'm going to overrule
4 that objection. I'm going to allow fifteen
5 minutes for plaintiff to discuss with
6 Mr. Nawraocki. Now, obviously I'm not saying he
7 can go beyond his expert report in this respect,
8 that's a different issue.

9 I would say, also, Mr. Partridge
10 and Mr. Hawes, I do take very seriously
11 excluding the witnesses from the courtroom and
12 it is your job to make sure the witnesses other
13 than courtroom representatives are not present
14 when you're having discussions with the Court
15 outside of the presence of the jury.

16 MR. PARTRIDGE: And I apologize
17 for that, Your Honor. None of us realized he
18 was there and I accept responsibility for
19 looking to see whether he was in the courtroom
20 or not. And we did not do that. I apologize
21 that that happened.

22 THE COURT: All right.
23 Mr. Snyder.

24 MR. SNYDER: I would like if I

1 can, Your Honor, some guidance from the Court on
2 your preferred way for how I frame objections to
3 Mr. Nawraocki's testimony. I don't know what
4 he's going to say and what they're going to
5 decide to have him say in the next fifteen
6 minutes, but I am certain I'm going to have
7 objections about material that is beyond the
8 scope of his report or objections that he is
9 making statements that have no foundation.

10 THE COURT: We'll just have to see
11 when it comes up how best to handle it. In
12 allowing you to speak to Mr. Nawraocki, let's be
13 clear about it. I am only allowing you to speak
14 to him about the hypothetical negotiation date
15 and the consequences of that and nothing else.

16 MR. PARTRIDGE: We understand
17 that, Your Honor.

18 THE COURT: Now, is there any
19 possible way that we could continue with the
20 jury while those discussions are going on?

21 MR. PARTRIDGE: I don't think so,
22 Your Honor, because this is our last witness.
23 It would be pretty awkward to start the
24 defendant's case.

1 THE COURT: We'll recess until
2 9:15. Let's be back promptly at 9:15 so we can
3 move forward with the jury.

4 MR. SNYDER: Your Honor, I know we
5 got very strict time budgets and the Court is
6 keeping track of time. I assume this time is
7 not going to be charged against the defendants.

8 THE COURT: No, it's not going to
9 be charged against anybody.

10 MR. PARTRIDGE: Thank you.

11 (A brief recess was taken.)

12 THE COURT: Be seated, please. Do
13 we have anything we need to discuss before we
14 resume?

15 MR. PARTRIDGE: Your Honor, we're
16 prepared to go forward. We understand that
17 counsel for Google intends to make objections to
18 documents as we introduce them. That's what I
19 read from this. But we'll go forward. We do
20 think that -- and just for making my record,
21 that this has been prejudice to us given the way
22 all of this has developed up to this point in
23 time. We respect that Your Honor has made a
24 decision in this regard to which we disagree,

1 but we will go forward and we'll do the best
2 with where we are at the moment and hopefully
3 we'll be able to get through the testimony
4 without having objection after objection, but
5 we'll see how it goes and so we're ready to
6 proceed, Your Honor.

7 THE COURT: Okay. I just want to
8 put on the record that I don't think there's any
9 possibility of prejudice here. The 2005 date
10 has been in discussion for some period of time
11 and I've even given you tentative rulings in
12 advance that that was the date that I considered
13 to be appropriate so that you could work with
14 Mr. Nawrocki before he took the stand and now
15 you've had the opportunity to talk to him
16 additionally. And my ruling as to the 2008,
17 2010 projections is that they are not relevant.
18 Even if they were relevant, I'd exclude them in
19 computing the royalty rate under Rule 403. So
20 why don't we begin and we'll probably truncate
21 the lunch hour a bit and some of these breaks a
22 little bit to make up time this morning.

23 MR. PARTRIDGE: Your Honor, may I
24 preserve my record just for one minute?

1 THE COURT: Yes.

2 MR. PARTRIDGE: The expert report
3 was served last October. It had both
4 hypothetical dates in it. They responded with
5 their own report that addressed both dates. We
6 ended up with Daubert proceedings and this issue
7 wasn't raised. We ended up with a second
8 Daubert proceeding and this wasn't raised. We
9 had a pre-trial order and this wasn't raised.
10 And the first time we act actually got from the
11 other side an issue of this point was the Monday
12 following the pre-trial order and the order had
13 already issued without this being an issue
14 identified in the pre-trial order. I just need
15 to make my record and I'm sure you appreciate
16 that.

17 THE COURT: I understand.

18 MR. PARTRIDGE: Thank you.

19 THE COURT: Let's bring in the
20 jury.

21 (Jury enters.)

22 THE COURT: Good morning, members
23 of the jury. Sorry to keep you waiting. The
24 lawyers and I had something we had to resolve

1 before we could resume. And we may truncate the
2 lunch hour a little bit to try and make up the
3 time. So why don't we bring Mr. Nawrocki back
4 to the stand.

5 THE COURT: Mr. Nawrocki, you
6 understand you're still under oath.

7 THE WITNESS: Yes, I do, Your
8 Honor.

9 THE COURT: Okay. Mr. Hawes, you
10 may proceed.

11 MR. HAWES: Thank you, Your Honor.

12 BY MR. HAWES:

13 Q. Mr. Nawrocki since we've all had a
14 night to perhaps have memories fade, could you
15 summarize for the jury what was important to you
16 about the Google internal documents that we
17 looked at yesterday afternoon?

18 A. So what we went through yesterday
19 was we talked about the strategic plan or the
20 strategic framework for Google and how that was
21 implemented by attracting users, how users were
22 monetized by advertisers and how Google Earth
23 was a product, as an example, was used as part
24 of that whole plan. One thing I might mention

1 as well, there was that Geo business that was
2 eventually developed to do some of the
3 monetization.

4 Q. And I believe this was the final
5 slide.

6 MR. SNYDER: Objection, Your
7 Honor. Can we have that taken down, please?
8 This is precisely an example of what we were
9 discussing earlier.

10 THE COURT: Well, let me see how
11 it's going to be used before I rule on the
12 objection.

13 MR. SNYDER: May I approach for
14 just a moment, Your Honor.

15 (Side bar discussion.)

16 MR. SNYDER: This is a 2008
17 document, July of 2008. And they're putting up
18 information about revenues. I intentionally did
19 not object to the description about the general
20 approach of monetizing Google Earth through ads,
21 but now they want to put up information from '08
22 with specific revenue data.

23 THE COURT: What's the point of
24 this?

1 MR. HAWES: Your Honor, I put it
2 up for him to be able to say this is what we
3 were looking at last time, then we were going to
4 move to the next slide.

5 THE COURT: Let's just move to the
6 next slide.

7 MR. HAWES: Okay.

8 MR. HAWES: Sorry, Your Honor.

9 BY MR. HAWES:

10 Q. So if you could turn with me to
11 Plaintiff's Trial Exhibit Number 45 in your
12 notebook, please, Mr. Nawrocki.

13 A. Yes.

14 Q. And are you familiar with this
15 document?

16 A. Yes, I am.

17 Q. What was the date of this
18 document?

19 A. December 2010. December 17th,
20 2010.

21 Q. This is Plaintiff's Trial Exhibit
22 45?

23 MR. SNYDER: Objection.

24 Irrelevant, Your Honor.

1 THE COURT: Let's see where he's
2 going with it.

3 Q. And this is Plaintiff's Trial
4 Exhibit 45; is that correct?

5 A. Yes, that's correct.

6 Q. Did you consider this document?

7 A. Yes, I did.

8 Q. We discussed yesterday about how
9 Google wanted to grow users and usage. Do you
10 remember that?

11 A. Yes.

12 Q. And having looked at what happened
13 at Google, did you find that Google succeeded in
14 growing users and usage?

15 A. Yes, I did.

16 Q. And did you look at any Google
17 documents in reaching that conclusion?

18 A. Yes.

19 Q. Could you describe for us the
20 documents shown which is Plaintiff's Trial
21 Exhibit 3150?

22 MR. SNYDER: Objection.
23 Irrelevant Your Honor.

24 MR. HAWES: This does not have any

1 projections in it, Your Honor. This is not
2 going to the issue they've raised, it just goes
3 to what actually happened.

4 THE COURT: For the moment that's
5 overruled.

6 BY MR. HAWES:

7 Q. So what did you find in this
8 document?

9 A. So this document which is called
10 the future of Earth, it's called By the Numbers.
11 There is one page that goes By the Numbers, and
12 it's looking back at what's happened so far.
13 They identify what their activations were. See
14 that it's 1.9 billion total activations through
15 2014, approximately. There was strong
16 engagement, the average session length was one
17 thing they looked at. Mobile devices, six to
18 seven minutes. Desktop twenty plus minutes. So
19 there is a difference there. You'll spend more
20 time on your desktop than you will on your
21 mobile device, still a significant amount of
22 engagement time.

23 And they recognized they had a
24 significant user base. 25 million seven day

1 active, 70 million third day active uses
2 overall. So those are people using Google Earth
3 on an active basis.

4 Q. And Mr. Nawrocki, are these
5 projections?

6 A. No, these -- this is by the
7 numbers what's happened so far.

8 Q. So once you looked at Google's
9 strategy, how did you calculate the proper
10 damages?

11 A. I took a look at the base and
12 determined what the amount of infringing use
13 was.

14 What's at issue here is a method
15 claim, or a method patent. And so what I looked
16 at is how was this method used. I looked at
17 several things. I looked at the number of
18 users, number of activations, number of
19 sessions, amount of time spent, all those things
20 as a consideration for what would measure the
21 use.

22 And the reason for that is not
23 everybody uses Google Earth. Some people use it
24 once. Well, then it would be one session and

1 the royalty would be paid on that one session.
2 I use it, I probably use it a couple hundred
3 times, then my sessions would be 200 sessions in
4 there.

5 So based upon all that
6 information, I think sessions would be a
7 reasonable basis to take a look at to measure
8 the extent of use.

9 Q. Did you consider a paid up or lump
10 sum license?

11 A. Yes, I considered it.

12 Q. And what was your conclusion?

13 A. My conclusion was at the time I
14 think the parties' expectations were
15 diametrically opposed for a lump sum. There was
16 some testimony here in the trial you heard where
17 ACI or Art+Com ACI was looking for a package
18 deal. And that didn't seem to be necessarily
19 what Google was interested in.

20 ACI wanted to kind of increase
21 their overall platform. They considered certain
22 similar amounts as part of a package deal which
23 was discussed. They also considered certain
24 running considerations as well or extent of use

1 type of licenses, so I considered that.

2 Q. And what was your conclusion as
3 to --

4 THE COURT: Mr. Hawes and
5 Mr. Snyder, can you approach the bench.

6 (Side-bar discussion:)

7 THE COURT: I want you to
8 establish with the witness that you're talking
9 about a hypothetical negotiation in 2005 so
10 there isn't any confusion in it because I don't
11 want to intervene and tell them that's what it
12 is in my jury charge. I want you to make clear
13 that's the period you're talking about.

14 MR. HAWES: May I do it after
15 we're done with the royalty base which is --
16 because --

17 THE COURT: Yes. I don't want the
18 jury to be confused about the time period.

19 MR. HAWES: I will do it, but I
20 would like to get in royalty base first.

21 MR. SNYDER: I also, Your Honor,
22 think it's essential that he identify a
23 foundation for an opinion before he blurts out
24 what it is on the royalty rate.

1 THE COURT: We will see where it
2 goes.

3 (End of side-bar.)

4 BY MR. HAWES:

5 Q. So Mr. Nawrocki, I think it's the
6 same question I just asked. What was your
7 conclusion concerning your analysis of the lump
8 sum royalty and the running royalty?

9 A. That a running royalty rate would
10 be the appropriate royalty for this matter.

11 Q. And what was the first thing you
12 needed to do in order to apply a running
13 royalty?

14 A. To determine what the royalty base
15 would be.

16 Q. And how did you determine the
17 royalty base?

18 A. So after considering the various
19 options, I determined it based upon looking at
20 the amount of sessions that Google had for
21 Google Earth. They actually record the amount
22 of sessions.

23 Q. And what kinds of Google documents
24 did you use for that analysis?

1 A. So as part of this case, Google
2 produced numerous spreadsheets. This was one
3 such spreadsheet. It was much longer than this
4 and wider than this, it's a voluminous
5 spreadsheet. This is an extraction of that.

6 You see day by day it shows the
7 amount of Google Earth sessions. On the left
8 column, you see iPhone, iPad, Android, PC, there
9 are various other devices there identified as
10 well. The next column shows the amount of
11 minutes on average. You see that varies from
12 seventeen to twenty minutes on average.

13 And then the very right column is
14 the total amount of sessions. It's not showing
15 up totally on the screen here. I don't know if
16 it can be moved over. But that number looks
17 like it's 1.7 million, it's actually
18 approximately 17 million. So 17 million, so
19 between 15 and 20 million sessions per day, 15
20 to 20 million sessions per day people using it
21 based on their own records.

22 Q. And this is Plaintiff's Trial
23 Exhibit 55?

24 A. Yes, it is.

1 Q. And that was a spreadsheet you
2 considered; is that correct?

3 A. Yes.

4 Q. Please turn in your notebook to
5 Plaintiff's Trial Exhibit 72C. And can you tell
6 the jury what that document is?

7 A. Yes. This is another Google
8 document that I looked at to make an adjustment
9 to the data here.

10 Q. What is the document?

11 A. The document is a spreadsheet from
12 Google that identifies certain price levels.

13 Q. And could you turn to Plaintiff's
14 Trial Exhibit 73 and tell the jury what that
15 document is?

16 A. 73. So this is another
17 spreadsheet and it's sales by customer.

18 Q. Could you turn to Plaintiff's
19 Trial Exhibit Number 198 and tell the jury what
20 that document is?

21 I believe you have two notebooks,
22 Mr. Nawrocki.

23 A. Yes. Sorry.

24 So 198 is a Google document that

1 identified the average user size for different
2 aspects including government.

3 Q. And could you explain to the jury
4 how those three documents were important to your
5 analysis of the royalty base?

6 A. So the spreadsheet has total
7 sessions on a worldwide basis. I had to adjust
8 this database for this US proceeding by a couple
9 of things, or several things.

10 First of all, these documents were
11 used that I just mentioned to adjust for federal
12 government use. Federal government use is not
13 at issue in this proceeding, so I had to make a
14 calculation of what that usage or what those
15 sessions would be.

16 Q. So having done that, could you
17 please turn on your notebook to Plaintiff's
18 trial exhibit 66 and tell the jury what that
19 document is?

20 A. Okay. So this is another Google
21 spread sheet that shows the worldwide
22 activations.

23 Q. And then could you turn to exhibit
24 number 190 and tell the jury what that is?

1 A. That's another Google spread sheet
2 that shows the number of activations by country.

3 Q. And how were those two exhibits
4 important to your analysis?

5 A. I use those to estimate what the
6 U.S. sessions would be. The information on the
7 spread sheet that we talked about previously,
8 PTX-055 has worldwide sessions. I had to
9 estimate what the U.S. sessions would be and
10 then I had to exclude the government use as
11 well.

12 Q. So could you explain to the jury
13 how after taking those steps you reached a
14 conclusion as to the royalty base in this case?

15 A. So then I summarized the
16 information by year. I believe it's not showing
17 up. I'm sorry, it is. I didn't see it on the
18 screen.

19 Q. This again is confidential
20 information, it will not show up on the screen.

21 A. I understand. So I summarized
22 their sessions for the U.S., excluding
23 government sessions on the schedule. And so
24 you'll see starting in 2010, the amount starts

1 in the middle of 2010. There were sessions
2 before this, but for damages purposes I've
3 started in the middle of 2010, all the way
4 through April of 2016. And you'll see there's
5 several billion per year for a total of
6 7,099,171,846.

7 Q. And what steps did you take other
8 than the federal government adjustment and U.S.
9 adjustment that you previously described in
10 reaching this conclusion?

11 A. So the other adjustment that was
12 made was for after 2013 Google Earth was
13 combined with Google Maps. And so the data that
14 Microsoft -- not Microsoft, that Google had for
15 the sessions didn't include Google Earth or
16 Google Maps for those years. It did include
17 some of the sessions but not all the sessions,
18 so I had to estimate the sessions for '14, '15
19 and '16 by looking at the prior years.

20 Q. And did you reach a conclusion as
21 to the property royalty base in this case?

22 A. Yes. And so my conclusion based
23 upon my analysis was that the royalty base would
24 be again the 7 billion, 99 million that we

1 talked about.

2 Q. And how did you go about
3 considering potential royalty rates?

4 A. So I looked at a set of reasonable
5 royalty factors. This chart shows the factors
6 that I've proved off. For purposes of
7 calculating a rate, there's a case called
8 Georgia Pacific and it identifies 15 factors
9 that I considered as part of my analysis. I'm
10 not going to go through all 15 factors, so what
11 I've done is I've grouped them into three
12 groups. Certain factors deals with licensing
13 considerations, some of them dealing with
14 technical and then there's a variety of
15 financial and business factors, like commercial
16 success, extent of use, things such as that, all
17 leading to what's on the bottom is a
18 hypothetical negotiation; in other words, what
19 the parties would have agreed to when they would
20 have sat down at this table and applied what
21 rate should be applied to it.

22 Q. Mr. Nawrocki, going forward in our
23 discussion, can you please assume with me that
24 that hypothetical negotiation would have been

1 when Google Earth 3.0 was released in 2005?

2 A. Okay.

3 Q. Thank you. At the time of the
4 acquisition of Keyhole by Google in 2004, did
5 you hear about that in earlier testimony?

6 A. Yes, I did.

7 Q. What kind of an investment was
8 Google planning to make in the Keyhole
9 technology?

10 A. So there was some discussion from
11 a Mr. Jones about when the Keyhole was
12 purchased. And at the time as I understand it,
13 they were looking for Google to invest a billion
14 dollars to continue to develop the network in
15 Google Earth as part of that arrangement.

16 Q. Mr. Lodge, could you please put up
17 Plaintiff's trial exhibit 200. And could you
18 describe for us what this document is, Mr.
19 Nawrocki?

20 THE COURT: We're again dealing
21 with non-confidential documents. May they be
22 shown on the screen?

23 MR. HAWES: Yes, Your Honor.

24 BY MR. HAWES:

1 Q. Could you please describe for the
2 jury what this document is, Mr. Nawrocki?

3 A. So what this document is, is this
4 is a press release from Google dated June 28th,
5 2005, from Mountain View and it says Google has
6 announced the launch of Google Earth and it goes
7 on and describes it. Later on in that sentence
8 it says Google Earth enables users to fly from
9 space to street level views to find geographic
10 information and explore places around the world.
11 If you look further down in the document as an
12 example, the next section talks about key
13 features of Google Earth. For example, first
14 bullet point says that it's free software that's
15 download available. They also mention, a couple
16 bullet points down, the fourth one, integrated
17 Google Local Search to find local information
18 such as hotels, restaurants, et cetera. So as
19 soon as it was released they recognized that
20 they would be selling it for free, even though
21 Keyhole had been selling it for \$69 a user, they
22 were going to introduce it as a free product in
23 addition to having those paid subscriptions as
24 well. And that it would be integrated into

1 their Google Local Search platform.

2 Q. Was there any other information in
3 this document you found useful to your analysis?

4 A. I believe if you page down a
5 little bit further, I can't see the whole
6 document. What's the exhibit number?

7 Q. This is exhibit number 200, Mr.
8 Nawrocki?

9 A. Uh-huh. Yes, on the next page as
10 an example, the top of the next page. Second
11 paragraph, says for users interested in a more
12 advanced mapping capabilities, there would be
13 Google Earth plus for \$20 per year which had
14 features such as GPS, data import and then
15 Google Earth Pro was \$400 per year. So a unique
16 situation here, some subscriptions were paying
17 \$20 a year, \$400 a year per user and then it was
18 available to consumers on a free basis as well,
19 or users I should say. So there's obviously
20 more capabilities some of these things had, but
21 they were looking at both the paid model as well
22 as the free model.

23 Q. Mr. Lodge, could we pull up
24 Plaintiff's trial exhibit 31, please? Could you

1 identify this document for the jury?

2 A. Let me --

3 Q. Help us zoom so that we can see
4 what's important in it to you.

5 A. Yeah, so this is a Google
6 document. If you go to the date, actually
7 there's a revision date on the top. The very
8 bottom of the document, pull that up. I believe
9 it's approximately 2005. The very last page. I
10 don't know if you have it. Yeah, the very last
11 page. Yeah. So the original document or the
12 original version was dated August 9th, 2005. So
13 this was a couple months after they released it.
14 So August 9th, 2005, this was the initial
15 generation of the document. Let's go to the
16 front date. I just wanted to establish what the
17 timing was. So couple months hypothetical. So
18 this is the front end. Maybe zoom back, if you
19 don't mind. So at the bottom portion they talk
20 about several things. Within the vision, they
21 talk about that first section says as Google
22 rolls out more location dependent applications
23 like Local and Earth, it is important that we
24 develop a monetization solution and levers that

1 information. So that was important to me as if
2 you recall from that strategic framework we
3 talked about, talked about getting users,
4 getting information and monetizing it. So that
5 goes back to that network effect that we talked
6 about, and this is an example of that. You can
7 close that one.

8 If you go down below that second,
9 that's called background and motivation, they
10 identified here several things. And again, this
11 is a month or two after they've introduced their
12 product. The middle paragraph says currently
13 the combined local maps, properties generating
14 five million searches a day, Google Earth is
15 generating about one million local search per
16 day and seven million Geo codes. Geo codes are
17 geographic codes of where that information is
18 generated. So where you are or where you are
19 looking for, those codes would be important.
20 And again they're recognizing that at that
21 point. The next thing there's comment on is
22 they mention several things, they mention RPM
23 there in the next sentence.

24 Q. What does RPM stand for?

1 A. Talking about how they can
2 generate revenue here and they're saying if we
3 make some assumptions on growth we can get
4 certain RPM's of conservative \$10 per RPM.
5 That's revenue per thousand. So it's kind of
6 confusing, what's \$10 had per dozen. That's a
7 penny a unit or penny a search, if you will. So
8 conservatively a penny a search is what they
9 were thinking about at that point in time and
10 they put in some assumptions on growth.

11 I call your attention to 25
12 percent per month and 10 percent after that.
13 That's a fairly aggressive growth rate, 25
14 percent a month, would be several hundred
15 percent within a year. That's a fairly
16 aggressive growth rate they were looking for.
17 If I may just continuing on, the other aspects I
18 saw relevant to this document -- if you could
19 close that. There's a table on the bottom which
20 we don't have to blow up, that relates to the
21 maps. They make some assumptions there. Go to
22 the top of the next page. And it has an
23 anticipation for Earth. It's a little bit
24 grainy there, so I'll try to read through it.

1 You can blow it up perhaps. So it has what the
2 revenue impact for Google Earth is and this is
3 as of the time of August 2005, so the current
4 volume is 1.5 million searches per day. The
5 assumed traffic growth in this box, is 25
6 percent per month. So that's several hundred
7 percent per year basically.

8 The next item is the assumed RPM,
9 that's the 10,000 or \$10 per thousand searches,
10 so that's a penny a search at that level. And
11 then they go ahead and anticipate at that point
12 in time what their annual run rate is. I'll
13 explain what that is, but the amounts are as of
14 January 2006, so forth next year they were
15 anticipating a 7.3 million run rate for that
16 year, at that point in time. And then if you go
17 ahead to the next January, it would say well,
18 there's going to be 25 million a year later. So
19 that's more than a 300 percent increase in
20 that -- those first couple years they were
21 looking at and it would continue on if they
22 would be successful.

23 Q. Based on your review of the Google
24 documents, what was your conclusion as to the

1 perception of the growth of -- growth rate of
2 Google Earth in the 2005 time frame?

3 A. They expected high growth for that
4 ad application.

5 Q. And based on your review of the
6 Google documents, what portion of Google's Geo
7 business was Google Earth in the 2005 time
8 frame?

9 A. So in 2005 they didn't really
10 identify it in the next year. I believe it was
11 2006, so first full year after that, they began
12 identifying it. And in fact, we had a document
13 we referred to earlier that had what their
14 revenue was. I believe it was a 2006 direct
15 revenue.

16 Q. Could we move to slide #9, Mr.
17 Lodge. Is this the one you're referring to?

18 A. Yeah, this is an example. So they
19 refer to 2005 at the top saying revenues had
20 increased a hundred percent for Earth Pro and
21 200 percent for Enterprise compared to 2005, but
22 what they show is is the 2006 results, this is
23 the first full year afterwards. And what you'll
24 notice that I mentioned yesterday, I believe is

1 that Earth, the Earth products plus the Pro, the
2 Enterprises and then Earth ads down at the
3 bottom, add all those together would represent
4 more than 50 percent of their direct revenues at
5 this point in time, so more than 50 percent of
6 the 53 million. I might add, and this is a
7 focal point, is that the Google Earth ads at the
8 bottom at this point were 1.2 million. Remember
9 the prior slide we talked about as being 7
10 million as they would go forward and then 25
11 annual run rate, so they were anticipating
12 significant growth over this 1.2 million, even
13 in that '05 time period. This summarized what
14 they received at this point, but at that 2005,
15 ads were where they were expecting to grow. But
16 even at this point Earth represented
17 approximately 50 percent, a little bit more than
18 50 percent of their total revenues.

19 Q. Have you prepared a slide to
20 illustrate for the jury what the hypothetical
21 negotiation would have looked like?

22 A. I didn't misspeak, but I want to
23 be clear. I said approximately 50 percent of
24 their total revenues, their total Geo direct

1 revenues, to be more precise. I don't want to
2 say it's 50 percent of Google's revenues. 50
3 percent of the Geo direct revenues to be
4 precise.

5 Q. Thank you, Mr. Nawrocki. You
6 presented a slide for the jury to illustrate
7 what the hypothetical negotiation would look
8 like?

9 A. Yes.

10 Q. Mr. Lodge, could we move to --

11 THE COURT: It's not a
12 confidential slide.

13 MR. HAWES: It is not, Your Honor.

14 BY MR. HAWES:

15 Q. Could you explain for the jury
16 what you've shown here?

17 A. Yes, so this would be the
18 hypothetical negotiation or depiction of a
19 hypothetical negotiation with Art+Com sitting on
20 one side, Google sitting on the other side to
21 negotiate a license agreement that didn't happen
22 in this case. But what we have a construct of
23 is if the parties got together, they would get
24 together and have to have a discussion.

1 Q. And what assumptions would you
2 make about that discussion?

3 A. There are several assumptions.
4 First of all the assumptions would be that the
5 parties would be willing and able to license,
6 come to a license agreement. They would be
7 willing licensors.

8 There is an assumption that the
9 patents would be valid and infringed. So there
10 wouldn't be a challenge of that. The parties
11 would agree that they were valid and infringed
12 and now we're going to have to try to work out a
13 license agreement.

14 The other thing that's important
15 it's sometimes referred to as all information is
16 available for both parties. The cards are
17 referred to as face up. The information for
18 both parties would be available for them to
19 consider.

20 Q. So we talked about these factors
21 before. What aspects of the licensing factors
22 in your opinion affected the royalty rate?

23 A. I would say I considered all of
24 these factors. The ones that had the most

1 impact I would suggest would be the
2 interrelationship with the technical with the
3 financial and business factors. The licensing
4 had an impact, but not directly on the rates
5 specifically.

6 So the reason for the technical
7 and financial factors is the financial is where
8 you can take a look to determine what some of
9 the numbers would be. The technical side, what
10 that refers to is how superior is this
11 technology compared to what was out there and
12 what's the real benefits of this technology.

13 Dr. Castleman talked about what he
14 saw as the benefits of that. I saw Mr. Pavel
15 Mayer talk about how excited he was when he saw
16 certain information. I think I leaned on my
17 discussions with Dr. Castleman about the
18 importance of this technology, so that does
19 impact when you take a look at what portion
20 relates to the patents.

21 Q. What license agreements did you
22 look at?

23 A. So there was several
24 considerations from a licensing standpoint.

1 There has been some discussion about what the
2 offers were, considerations were of the ten
3 cents a user, dollar per user, ten cents a use
4 that ACI had been looking for. I also
5 considered a couple of agreements that Google
6 had produced that their expert regards as
7 relevant, and I considered those as well.

8 Q. And how would financial and
9 business factors affect the royalty rate?

10 A. There are several factors on the
11 financial and business side. Those deal with
12 things such as extent of use, what's the value
13 from that use, and we were talking a little bit
14 about the value of that use, things such as
15 Google Toolbars that you add, the search
16 revenues that you could see, the ad revenues
17 from the searches.

18 What amount relates to the patent
19 at issue versus the other considerations, so
20 those are the financial and business type
21 factors that I considered.

22 Q. What impact did you consider for
23 Google with regard to Google Earth's brand?

24 A. I think the importance of their

1 brand can't be minimized. They have certain
2 documents they produced that showed how they
3 looked at how Google Earth had helped their
4 brand or was one of the more important aspects
5 of their branding.

6 Q. Let's pull up Plaintiff's Trial
7 Exhibit 3150. Is this one of the documents
8 you're referring to? I think we have seen it
9 before?

10 A. Yes. So it's identified as good
11 for the brand, and it says that Maps and Earth
12 have two of the five most favored Google brands.
13 You'll see G-mail and Chrome and uTube. Maps
14 and Earth are above those in the higher bars.

15 Q. Now, in looking at the impact of
16 the technology, did you also look at the credit
17 that Google ought to receive for some of
18 Google's contributions?

19 A. Yes.

20 Q. And in apportioning or separating
21 out the value of the '550 patent, what did you
22 need to do in order to separate the Geo business
23 from Google Earth?

24 A. So we talked about this Geo

1 business platform which included several things.
2 I had to take a look at Google's own documents
3 and identify what portion of that was related to
4 Google Earth because not all of it was Google
5 Earth. There were several things talked about.
6 There were things that were directly or
7 indirectly related to Google Earth and I needed
8 to take a portion of that.

9 Q. So looking back to 2005 and 2006,
10 what document in 2005 or 2006 did you use to get
11 an estimate of the value of Google Earth inside
12 of Geo?

13 A. So for one aspect of that, I
14 looked at that direct source of revenue that you
15 referred to earlier.

16 Q. Have you jumped to slide nine?

17 A. Just to reference that. This
18 document where we talked about the Earth --

19 THE COURT: That should be
20 confidential, shouldn't it?

21 MR. HAWES: Sorry, Your Honor.

22 A. So the Earth Plus Pro Enterprise
23 and ads, again here shows this approximately 51
24 percent, 50 to 51 percent of the total revenues

1 at that point in time.

2 Q. And did you also need to make an
3 apportionment with respect to the United States?

4 A. Yes, I did. I'm just pausing a
5 little bit. This was the direct revenues.
6 There were some indirect revenues they looked at
7 as well. Those related to Google Earth Toolbar
8 which we won't have to identify here, but there
9 were Toolbar which were additional things which
10 would put a higher percentage on Google Earth.
11 The direct is about 50 percent, the indirect was
12 higher at this time. I'm sorry I interrupted
13 your question.

14 Q. Can we pull up Plaintiff's Trial
15 Exhibit 160. I believe this one is not
16 confidential. Can you explain to the jury what
17 this document is?

18 A. This is a Google financial
19 statement. It's called a 10-K report at the
20 top. It's filed with the Securities and
21 Exchange Commission by Google.

22 Q. How did this document play into
23 your analysis?

24 A. This document has their sales, not

1 for Google Earth but in total and it shows what
2 their sales were to US as a portion of total.
3 That percent is approximately 48 percent.

4 MR. SNYDER: Objection, Your
5 Honor.

6 THE COURT: Overruled.

7 MR. SNYDER: I'm trying to find a
8 date of this document. 2011. This is for 2011,
9 Your Honor.

10 THE COURT: Overruled.

11 BY MR. HAWES:

12 Q. After apportioning out the United
13 States portion of the benefits of Google Earth,
14 could you please turn with me to Plaintiff's
15 Trial Exhibit 219 in your notebook?

16 A. Yes, I have it.

17 Q. Can we bring up Plaintiff's Trial
18 Exhibit 219, please. I think this one is
19 public. We can leave that up.

20 Can you explain to the jury what
21 we're looking at here?

22 A. This is a document that --

23 MR. SNYDER: Objection, Your
24 Honor.

1 MR. HAWES: Please stop for a
2 moment.

3 MR. SNYDER: This is a document
4 from five years after the hypothetical
5 negotiation, Your Honor. It's going to be used
6 for an improper purpose.

7 THE COURT: For the moment that's
8 overruled. Let's see how it's used.

9 BY MR. HAWES:

10 Q. Can you explain to the jury what
11 this document is, Mr. Nawrocki?

12 A. This document summarizes how
13 Google shares revenues with partners they have,
14 someone uses a Google search engine, they share
15 their revenues. Without getting into details,
16 AdSense is a program where people can use Google
17 search results for activities and if you view
18 that on the website, then Google will share that
19 revenue with you.

20 If you look later on in the
21 document, they talk at the top end about where
22 sharing the revenue, the page I'm looking for is
23 the second page, the first full paragraph.

24 Q. So the one that begins we pay?

1 A. Yes. So we pay our AdSense for
2 search partners a 51 percent revenue share. So
3 that means if you do those activities, its
4 partner would receive 51 percent, Google would
5 have 49 percent, so roughly a split.

6 Q. Is that a projection Mr. Nawrocki?

7 A. That's how they actually operate.
8 What I call your attention to at the very bottom
9 sentence, it says the AdSense for search revenue
10 share has remained the same since 2005 when we
11 increased it.

12 Q. Thank you, Mr. Nawrocki. How did
13 you use the information you learned from this
14 document?

15 A. So one other aspect is to show how
16 it came into. I considered this, but the next,
17 second sentence, sorry about that, second
18 sentence within that paragraph, you can leave
19 that paragraph alone, it says as with AdSense
20 for content the proportion of revenue that we
21 keep reflects our costs, including the
22 significant expense, research and development
23 involved in building and enhancing our core
24 search and AdWords technologies. I recognize

1 when we're talking about this monetization
2 effort by Google, they need to be given credit
3 for that. We're in a patent infringement case
4 here about the patent at issue and I need to
5 give credit to Google for what they've
6 contributed. And there are several ways I did
7 that. This is one consideration I made.

8 Q. Just to make sure we pack up the
9 list, the first thing you did was with respect
10 to splitting out the US portion, what was the
11 percentage there?

12 A. That was 48 percent.

13 Q. And the second thing you did was
14 to give credit with regard to I guess you said
15 Google's research and development and building
16 and enhancing core search and AdWord?

17 A. For the search platform, what they
18 bring to the platform.

19 Q. What percentage of credit did you
20 give that?

21 A. 49 percent to Google, 51 percent
22 would remain.

23 Q. So what was the next apportionment
24 step that you conducted when trying to determine

1 how much of the credit should go to Google?

2 A. Well, we talked about taking a
3 look at what amount relates to the patent as an
4 example, how much apportion should relate to the
5 patent. If we make all these considerations,
6 what amount would relate to the patent at issue.
7 And based upon my discussions with
8 Dr. Castleman, there was several aspects of
9 things that were regarded as critical to the
10 functionality.

11 I believe in his testimony he had
12 a three-legged stool there which had the data,
13 the volume of data here that's used by Google.
14 They talked earlier about the billion dollar
15 investments, so that was one consideration.

16 There were certain documents that
17 had what those costs were per content
18 acquisition it's called.

19 Additionally I looked at the
20 hardware infrastructure cost that he considered
21 as the other leg of the stool. And the third
22 leg of the stool is the patent at issue.

23 So I assigned 30 percent to the
24 patent at issue, considering all these other

1 deductions that were made, what the Google Earth
2 would be as a portion, what the US portion would
3 be, giving credit to Google for their search
4 platform, the upper half, or half I should say,
5 approximately half, and then 30 percent to the
6 patent at issue.

7 Q. Can being back to slide 22,
8 Mr. Lodge, so we discussed. We went through the
9 royalty base and we just discussed a number of
10 the factors that go to the royalty rate. I
11 think yesterday we actually discussed what was
12 the guidance you received legally with respect
13 to that. And what was that, could you repeat
14 that for the jury?

15 A. That was referring to a statute
16 that said damages should be adequate to
17 compensate for a reasonable royalty for the use
18 made of the invention.

19 Q. And if royalty, if a reasonable
20 royalty for the use were determined, how would
21 one use that rate to determine the royalty
22 damages?

23 A. So the rate that would be
24 applicable here, you would be applied the

1 royalty base to arrive at what the royalty
2 damage would be.

3 Q. And you were here in the courtroom
4 when there was a discussion of a rate that was
5 offered by ACI with respect to the per use, do
6 you remember that?

7 A. Yes.

8 MR. SNYDER: Objection, Your
9 Honor. It's irrelevant. The rate he's about to
10 ask was from 2010, the per use rate.

11 MR. HAWES: Your Honor, the e-mail
12 was 2010, but it described it as a typical rate.
13 It did refer to it as something -- it was just a
14 rate that was out there. It was not specific to
15 2010.

16 THE COURT: Overruled.

17 MR. SNYDER: There is no
18 foundation that was a typical rate.

19 THE COURT: You can cover it on
20 cross-examination. It's overruled.

21 MR. HAWES:

22 Q. What was that typical rate,
23 Mr. Nawrocki?

24 MR. SNYDER: Your Honor, this is

1 beyond the scope. There was nothing disclosed
2 about Mr. Nawrocki relying on --

3 MR. HAWES: I'm not asking if he
4 relied on it. It is in the report that he
5 discussed that rate.

6 THE COURT: Overruled.

7 BY MR. HAWES:

8 Q. Mr. Nawrocki, what was the typical
9 rate for the per user rate expressed in that
10 e-mail?

11 A. That e-mail referred to a ten
12 cents per user rate, or I'm sorry, ten cent per
13 use rate, I should say, a dollar per user, ten
14 cent per use.

15 Q. Could you reiterate for us how
16 many uses there were in this case?

17 A. 7,099,000,000.

18 MR. HAWES: No further questions,
19 Your Honor.

20 THE COURT: Mr. Snyder.

21 MR. SNYDER: May I approach the
22 witness, Your Honor?

23 THE COURT: Yes.

24 MR. SNYDER: Thank you.

1 CROSS-EXAMINATION

2 BY MR. SNYDER:

3 Q. Good morning, Mr. Nawrocki.

4 A. Good morning.

5 Q. You're being paid for your time to
6 testify in this case; correct?

7 A. Yes. Our firm is being paid on an
8 hourly basis.

9 Q. What is your rate?

10 A. My rate is 550 an hour. My firm's
11 rate is 550 an hour for my time.

12 Q. Approximately how many hours of
13 your time have you spent on this case?

14 A. I don't recall a specific number,
15 but more than 200 hours.

16 Q. How many hours has your team spent
17 on this case?

18 A. My team has spent hundreds of
19 hours on this case. There was numerous,
20 thousands of spreadsheets, documents, hundreds
21 of hours.

22 Q. Mr. Nawrocki, you understand that
23 the hypothetical negotiation date for your
24 opinion is in 2005?

1 A. That's my understanding.

2 Q. You don't have an opinion, do you,
3 on whether or not the '550 patent is infringed
4 by Google Earth?

5 A. I don't have an opinion on that.
6 That was an analysis of Dr. Castleman.

7 Q. That's just an assumption that you
8 make for purposes of your analysis?

9 A. That's correct.

10 Q. And you understand that if there
11 is no infringement, then there would be no
12 damages; correct?

13 A. That's correct.

14 Q. You also have no opinion on the
15 validity of the '550 patent?

16 A. That's correct, that's being
17 debated by other experts in the case.

18 Q. And you understand that if the
19 patent is invalid, then there is no damages;
20 correct?

21 A. Yes, that's my understanding.

22 Q. Part of your analysis is the -- is
23 based on what you called a hypothetical
24 negotiation?

1 A. Yes. We had that slide with the
2 factors on it leading to a hypothetical.

3 Q. And the purpose of the
4 hypothetical negotiation is to determine what
5 ACI and Google actually would have agreed to in
6 2005; is that right?

7 A. Yes, under certain assumptions.

8 Q. Under certain assumptions.
9 During the parties' negotiations
10 in -- withdrawn.

11 You understand that the parties
12 actually had some negotiations in 2006; correct?

13 A. That's my understanding.

14 Q. And that was very close to the
15 hypothetical negotiation date that we're using
16 for purposes of this analysis?

17 A. Yes. 2005, middle of 2005 was
18 when the press release was out and they released
19 Google Earth, so 2006 would be within the year
20 or so afterwards.

21 Q. During the parties' negotiations
22 in 2006, there was not any mention of a royalty
23 based on a per session amount or a per use
24 amount, was there?

1 A. Not to my knowledge. Well, I
2 shouldn't say that. There was a percentage
3 applied or discussed, but not a dollar amount
4 per unit.

5 Q. And that percentage, we'll get to
6 that in just a moment. That percentage was not
7 a per use amount, was it?

8 A. It wasn't a per unit amount, it
9 would have been a -- I just want to make clear.
10 I view it as still running, but not a per unit
11 amount.

12 Q. Mr. Nawrocki, I didn't ask you if
13 it was running or not, I asked you if it was an
14 amount per use?

15 A. Not per use, it's percentage.

16 Q. Just to be clear, in the parties'
17 discussions in 2006, nobody, either Google nor
18 ACI, mentioned a per session or per use royalty;
19 correct?

20 A. Not to my knowledge on a per unit
21 basis.

22 Q. Now, would you agree with me that
23 strong evidence of what the parties would have
24 actually negotiated is evidence of what they

1 actually talked about?

2 A. I didn't follow your question.

3 Q. That's a poor question. I'll try
4 and reword it.

5 Would you agree that what the
6 parties actually did is strong evidence of what
7 they would have done in your hypothetical
8 negotiation?

9 A. I'm not going to weigh the
10 evidence. I would say it's a consideration.
11 What the strength of it is I would say is
12 something I considered.

13 Q. We'll let the jury make that
14 factual decision.

15 A. That's fair.

16 Q. Would you agree, Mr. Nawrocki,
17 that what the parties did in -- at the time of
18 the hypothetical negotiation would be at least
19 some evidence and relevant to what they would
20 have done in your hypothetical negotiation?

21 A. I would say it's a fair
22 consideration.

23 Q. Now, could you please bring up,
24 Mr. Ang, Plaintiff's 122.

1 I don't think that's the right
2 document. Let's try Plaintiff's 13, please.

3 A. Is it in my binder as well, I
4 assume? Just so I'm clear, do I have that in my
5 binder as well just so I can see it?

6 Q. Why don't you turn in your binder,
7 please, to Plaintiff's -- PTX 13 in your binder.

8 A. PTX 13?

9 Q. PTX 13, yes. They're not quite in
10 order.

11 A. Okay. I have 213 and 214. I have
12 the PTXs, but I didn't see the PTX 13. 213,
13 214. Oh, you know what, you're right, they're
14 not in order. I have 13. Okay.

15 Q. This is the first e-mail that
16 Mr. Mayer sent to Google to contact them about
17 Google Earth; correct -- I'm sorry, about the
18 '550 patent?

19 A. I don't know if it was the first
20 one. I know there were various correspondence
21 in or around 2006.

22 Q. You're not aware of any that came
23 before this one, are you?

24 A. I don't recall. There are several

1 I have seen.

2 Q. And you were in the courtroom when
3 Mr. Mayer testified?

4 A. Yes.

5 Q. And did you hear him testify that
6 this was the first e-mail that he sent to
7 Mr. Jones?

8 A. I don't remember if he said it was
9 the first, but I remember there being a
10 discussion about his e-mails to Mr. Jones.

11 Q. And in this e-mail, he attached a
12 proposal; correct?

13 A. I remember seeing a proposal. It
14 says down below there is a copy of a short
15 presentation, so I believe I have seen that
16 before.

17 Q. And that was about the -- it was
18 about their licensing proposal?

19 A. I believe so, but do you have the
20 document?

21 Q. I think we might have to come back
22 to that one, Mr. Nawrocki. I'm sorry, I got the
23 wrong number here. So we're going to have to
24 find that.

1 A. Okay.

2 Q. All right. Now in August of --
3 that message was in January of 2006; right?

4 A. Yes.

5 Q. Now in August 2006, ACI suggested
6 a price for Google to purchase the '550 patent?

7 A. There was some discussion that I
8 have seen in the documents as well as here at
9 trial about different proposals, so I don't know
10 which one you're talking about in August. If I
11 could see that.

12 Q. Sure. If you could look at
13 Defendant's Exhibit 1071. And if we go, please,
14 to --

15 A. I would be happy to look at the
16 screen, I just don't seem to have that one
17 either, unless they're not in order.

18 Q. I'm pretty confident that it is in
19 there. It would have been right near the 13.
20 Why don't we take a look at the screen.

21 A. Okay. Sure. Again, the number
22 you said was PTX 1071?

23 Q. 1071.

24 A. Okay. I don't seem to have it

1 here.

2 THE COURT: It is in your book.

3 It's right before, a couple of pages.

4 BY MR. SNYDER:

5 Q. It's before the deposition
6 transcripts, sir.

7 A. I got it.

8 Q. And we can look at this screen and
9 we can make this a little larger so the jurors
10 can see. This is an e-mail from Mr. Mayer to
11 Mr. Jones in August of '06; correct?

12 A. Yes.

13 Q. Q. And he says they want to keep
14 Mr. Jones up-to-date about a recent discussion
15 he had with the CEO, Andreas, regarding the
16 patent licensing?

17 A. Yes, I see that.

18 Q. And he says, "I convinced him that
19 a price on the order of 3 to 5 million would be
20 acceptable at this time."

21 A. Yes, I see that.

22 Q. "And that was given that the
23 number of potential buyers is limited to a
24 handful and it would require substantial time

1 and effort to get a better deal."

2 Do you see that?

3 A. Yes.

4 Q. Now, this was a proposal to
5 purchase the '550 patent, right?

6 A. They talk about patent licensing
7 here either for purchase, or I believe they were
8 talking about investments and other options.

9 Q. This proposal, though, you read
10 this wording and you understand that that's a
11 proposal to purchase the patent for 3 to \$5
12 million?

13 A. I don't have a conclusion on that
14 based upon my read of the collection of
15 documents, and my discussions where they had
16 looked for a variety of options.

17 So this talks about 3 to 5
18 million. As I talked with them numerous times,
19 and heard the testimony, and saw the documents,
20 they were always considering a package where
21 they would have a joint relationship with them.

22 But this would be one piece of
23 that that was discussed.

24 Q. Mr. Nawrocki, your company does IP

1 evaluation?

2 A. Yes.

3 Q. And would you agree with me that a
4 purchase of a patent is more valuable than a
5 license to a patent?

6 A. It depends on the patent
7 certainly, but all else being equal, if you buy
8 the patent, then you have the full right to it.
9 That generally would be more valuable. I can't
10 think of a situation where it wouldn't.

11 Q. So you would assume --

12 A. Some purchases have other terms
13 during the purchase. There are sometimes a
14 license back, sometimes there are other clauses.

15 Generally, a purchase to license could be
16 more valuable, it could be more valuable.

17 Q. It was a pretty simple question.

18 You agree that a purchase of a
19 license would be more valuable -- I'm sorry -- a
20 purchase of a patent would be more valuable than
21 a license to the patent?

22 A. I've been doing this for a lot of
23 years and that could be the case. It's just
24 that sometimes a license, by owning the patent,

1 you sometimes have duties to defend, you have to
2 litigate things. You might have other costs
3 that potentially with licenses you would be
4 required to do.

5 Sometimes with a purchase, you
6 might say, you know what?

7 I'd rather just take a license,
8 for example, for a pharmaceutical maybe than own
9 a patent and do other things with the patent.

10 So it depends. But, in general,
11 for simple purposes owning the patent is better
12 than just getting a license.

13 But there's sometimes
14 complications that you have as a result of a
15 patent that might have other rights due to other
16 licenses. It's not all that simple. In
17 general, a purchase would be better than a
18 license.

19 Q. Mr. Nawrocki, you never saw
20 anything related to the '550 patent to indicate
21 that a license to the patent would be more
22 valuable than purchasing the patent, did you?

23 A. Well, it depends on the license, I
24 guess.

1 Q. You never saw anything, in the
2 terms of license, that ACI suggested to Google
3 to indicate that that license would be more
4 valuable than purchasing the patent, did you?

5 A. I didn't see anything that was
6 down to a License Agreement with clauses. There
7 were discussions and e-mails, but I didn't see
8 it in terms of clauses such as that that were
9 identified.

10 Q. Mr. Nawrocki, you're familiar with
11 the difference between an exclusive license and
12 a non-exclusive license?

13 A. Yes, an exclusive means that you
14 are the only person that get the license.

15 Non-exclusive would mean that
16 other people would get the license as well.

17 Q. And for purposes of the
18 hypothetical negotiation, you assume that the
19 license would be non-exclusive, isn't that
20 right?

21 A. Yes, for purposes of the
22 negotiation -- and I'm pausing a little bit --
23 because I believe the prior e-mail talked about
24 an exclusive offer.

1 But for purposes of negotiation,
2 would be assumption of a non-exclusive, though
3 there had been some discussion points about
4 exclusivity within these discussions.

5 Q. I was just asking about the
6 hypothetical negotiation, Mr. Nawrocki.

7 You assume, for purpose of the
8 hypothetical negotiation, that it would be a
9 non-exclusive license?

10 A. That would be the assumption.

11 Q. And that means that ACI would
12 still be free to license that patent to other
13 people?

14 A. If there was other people using
15 it, they would have that ability, or potentially
16 they would use it themselves.
17 But, yes, with a non-exclusive, they would have
18 additional rights.

19 Q. And, generally speaking, a
20 non-exclusive license is less valuable than an
21 exclusive license?

22 A. I couldn't say a hundred percent,
23 but generally that's the case, depending upon
24 the specific materials. All else being the

1 same, an exclusive would be more valuable.

2 Q. Now, in this proposal in August of
3 2006, this was for a -- this was a lump-sum
4 payment, correct?

5 A. It would appear to be that. It
6 doesn't give the timing of it. It talks about
7 in the order of 3 to \$5 million. It doesn't say
8 lump sum or up front, but it says 3 to 5
9 million.

10 Q. In this e-mail, ACI does not
11 suggest any kind of running royalty, do they?

12 A. I don't believe they do.

13 Q. And they don't suggest in this
14 e-mail any kind of per-use or per-session rate,
15 do they?

16 A. I'm just looking down below in the
17 e-mail. It says that we would -- if you go down
18 below at the last paragraph -- it says, "We
19 would also like to start a discussion about
20 possible terms. We would use Google Earth
21 content and location-based installations. We
22 have some unsolicited offers and requests from
23 customers."

24 So what --

1 Q. Mr. Nawrocki --

2 A. -- would all that be is, I don't
3 know what aspect -- how that would relate to
4 their negotiations.

5 Q. Mr. Nawrocki, there is nothing in
6 this paragraph that you just read for us that
7 says anything about a per-session rate, does
8 it?

9 A. Not a per-session rate. That's
10 correct.

11 Q. There's nothing in this paragraph
12 that you just read for us that related to a
13 running royalty?

14 A. That's correct. It shows other
15 aspects they were considering as well.

16 Q. The possible term they are talking
17 about here is, ACI using Google Earth content in
18 locatio-based installations, correct?

19 A. Yes. So there are a couple
20 aspects that I was just going to explain.

21 Q. Mr. Nawrocki, if ACI -- we'll,
22 I'll withdraw that question. I'm sure if you
23 want to explain further, I'm sure your lawyer
24 can ask about it.

1 A. Okay.

2 Q. In July of 2006, Google
3 communicated its feelings about the '550 patent
4 to ACI, correct?

5 A. I don't remember the time period,
6 but there was some discussion from Google as
7 well.

8 Q. Google told ACI that the most that
9 it would be willing to pay was if it was a
10 million dollars, isn't that right?

11 A. In some period of time there was a
12 million. There were various numbers talked
13 about. There was another e-mail we saw that
14 talked about other amounts.

15 MR. SNYDER: Could you -- could
16 you bring up, please, Plaintiff's Exhibit 15?

17 BY MR. SNYDER:

18 Q. This is a message from Google's
19 Michelle Lee to Patrick Paulisch at ACI?

20 A. Yes.

21 Q. Okay. If we can go down to the
22 next e-mail, this is an e-mail from Mr. Paulisch
23 to Ms. Lee?

24 A. Yes.

1 Q. And she is -- he is summarizing
2 the conversation that they had in a telephone
3 call in July?

4 A. Yes, I see that.

5 Q. And you heard Mr. Mayer testify on
6 Monday about that phone call, didn't you?

7 A. Yes.

8 Q. You heard him testify that he
9 participated in that phone call?

10 A. That's my recollection.

11 Q. In this e-mail, Plaintiff's 15,
12 Mr. Paulisch reports that Google tell them that
13 the most Google would be willing to pay was \$1
14 million to buy the patent?

15 A. There's a couple of things there.

16 Q. Mr. Nawrocki, is it the e-mail or
17 not?

18 A. It is.

19 If you look at the next point it
20 says, "Instead of buying" -- and this is
21 reflecting what Google said was a fair summary
22 -- "instead of buying, Google views licensing on
23 an exclusive or non-exclusive basis as a valid
24 alternative, maybe even combining with

1 contracted work."

2 That was discussed in addition to
3 the one million.

4 Q. I'm asking you what this says was
5 the maximum that they were willing to pay.

6 Mr. Nawrocki, it says the maximum
7 they were willing to pay was a million dollars,
8 right?

9 A. I see that.

10 Q. It identifies these licensings as
11 valid alternatives?

12 A. Yes.

13 Q. It doesn't identify any rates for
14 those?

15 A. No, but it says Google views
16 licensing as an alternative.

17 Q. It does not indicate any
18 willingness to enter into a license on a
19 per-session basis, does it?

20 A. It doesn't say that.

21 Q. It doesn't indicate any
22 willingness to enter into a running royalty
23 agreement, does it?

24 A. It doesn't say that, right.

1 Q. Now, if we look at the bullet up
2 above or the first line of that bullet, it says
3 "Even if the patent would be a hundred percent
4 air tight, or at least meeting Google's comfort
5 level."

6 Do you see that?

7 A. Yes.

8 Q. And you heard Mr. Mayer testify
9 that that was related to the validity of the
10 patent?

11 A. I was here for his testimony. I
12 don't recall specifically the validity. But
13 there was some discussion about it.

14 Q. Do you recall Mr. Mayer saying
15 that he understood this to mean that if the
16 patent were a hundred percent defensible?

17 A. I don't remember exactly what he
18 said. Air tight would mean that there would
19 be -- I don't know what he meant by "air tight."

20 But that's the discussion between
21 Google and ACI, meaning there might not be
22 issues. At least that's what they are trying to
23 assume there.

24 Q. Now, and that their -- let me go

1 back a moment -- one of your assumptions, as we
2 talked about a few minutes ago, was that the
3 patent is valid?

4 A. Yes.

5 Q. And that's very similar to Google
6 telling ACI that it would only pay a million
7 dollars if it were a hundred percent air tight,
8 isn't that right?

9 A. I couldn't say if it was similar
10 or not. That's their terms, not mine.

11 But I would say valid and
12 infringed would be the assumption that we had.
13 What they meant by that, I agree with the
14 statement.

15 Q. Now, this \$1 million is to
16 purchase the patent, correct?

17 A. It says, the maximum price they
18 would be willing to pay is 1 million to buy the
19 patent. One million to buy the patent.

20 Q. Which is more valuable than a
21 license?

22 A. With the exceptions that we talked
23 about.

24 Q. Now, if you have also been in the

1 courtroom and we've seen evidence regarding
2 ACI's response to this e-mail, right?

3 A. Yes. Again, I believe there was a
4 back and forth between the parties.

5 MR. SNYDER: Could you bring up,
6 please, Defendant's Exhibits 1004.

7 BY MR. SNYDER:

8 Q. Now, this is another exhibit that
9 we've seen before, you seen you've seen this in
10 the courtroom right, Mr. Mayer -- I'm sorry --
11 Mr. Nawrocki?

12 A. Let me just read this. There are
13 several...yes, I recall seeing this.

14 Q. And in this -- this is from
15 September of 2006?

16 A. September, yes.

17 Q. Which is near the time of the
18 hypothetical negotiation?

19 A. About a year afterwards.

20 Q. And in this message, Mr. Mayer
21 says that it is -- he's attaching a letter
22 regarding the sale of the patent? The first
23 line.

24 A. Oh, regarding sale of the '189,

1 the virtual globe patent.

2 Q. And that's the patent that
3 preceded, the original patent that preceded the
4 '550 patent, correct?

5 A. I don't know if that was the
6 number that directly preceded it.

7 Q. No. It was the original patent?

8 A. I'll take your word for it.

9 Q. You didn't understand this to be
10 about some other patents not involved in this
11 case, did you?

12 A. Not that I recall. I just know
13 that the patent issued in this case is the '550.

14 Q. This e-mail is about purchasing
15 the patent, correct?

16 A. Yes, or regarding the sale of the
17 virtual globe patent, the '189.

18 Q. And that would be a purchase by
19 Google of the -- of ACI's patent?

20 A. Of the '189 they refer to, yes.

21 Q. And this is the amount -- they
22 were proposing an amount after taking steps to
23 find out a reasonable market value based on a
24 potential return from other options and then

1 selling it to you, is that right?

2 A. Yes, and the next paragraph is
3 informative as well in terms of what it doesn't
4 take into account.

5 Q. Right. It does include their
6 steps to find out a reasonable market value
7 based on potential return?

8 A. Yes, but it says in the next
9 sentence, it does take into account our
10 expectations of a much higher value in the
11 future due to the development of the market.

12 Q. And they did include, didn't they,
13 a proposal to purchase the patent, to have
14 Google purchase the patent?

15 A. Again, I believe there were
16 different options that were considered with the
17 overall tactical options that they were
18 considering.

19 Q. Let's take a look at the next page
20 so we can look at those options?

21 A. Okay.

22 Q. At the bottom of this page --
23 we're on the second page of Defendant's Exhibit
24 1004 -- there is a list of five different terms.

1 A. If you might just go back to that
2 prior document. The other one. Let me make
3 sure I understand from the prior document.

4 No. The e-mail that we had previously?

5 Because this was -- I guess this
6 was the Michelle Lee. I see. There was a copy
7 to Mr. Jones.

8 Okay. So the next document you
9 had was to Michelle. I see.

10 Okay. I'm with you.

11 Q. You reviewed these documents
12 before today, haven't you, Mr. Nawrocki?

13 A. I saw Michelle on there and I was
14 looking at it in terms of Michael Jones, so --

15 Q. You reviewed these documents as
16 part of your preparation in the case?

17 A. As part of my analysis.

18 Q. So it's not like you're seeing
19 these for the first time?

20 A. That's correct.

21 Q. And you've been in court all week,
22 haven't you?

23 A. Yes.

24 Q. And you've heard all testimony

1 about all these documents?

2 A. Yes, I have.

3 Q. So these aren't new to you, are
4 they?

5 A. They are not.

6 Q. Now, in this proposal, ACI says,
7 "We offer the following." And one of the
8 terms is that ART+COM" -- which is after No. 5
9 -- "ART+COM receives a one-time payment between
10 3-1/2 to 5 millin euros."

11 A. Down at the bottom?

12 Yes.

13 Q. Mm-hmm. And that was a lump sum
14 amount?

15 A. Yes, a one-time payment would be a
16 lump sum.

17 Q. There is no indication of a
18 running royalty?

19 A. Let me just see.

20 The next sentence says, "Depending
21 on the extent of back license and other
22 conditions, we agree on it."

23 So I don't know if the back
24 license was referring to past use there, or what

1 specifically they had in mind.

2 Q. Mr. Nawrocki, there is no
3 indication in here of a running royalty, is
4 there?

5 A. Not a going forward running
6 royalty, that is correct.

7 Q. There is no indication here of a
8 per-session royalty, is there?

9 A. That's correct.

10 Q. Now, ACI and Google didn't reach a
11 deal regarding the '550 patent, did they?

12 A. That's correct. That's why we're
13 here.

14 Q. And ACI explored other options for
15 the two to sell or license the patent, correct?

16 A. There was some other discussions
17 back and forth between the parties.

18 Q. Well, one of the companies that
19 they contacted was Nokia?

20 A. Yes.

21 Q. And one of the companies that he
22 they contacted was Microsoft?

23 A. Yes.

24 Q. And Nokia responded to them and

1 said that they weren't interested, isn't that
2 right?

3 A. Is that a question?

4 Okay. I believe that neither
5 Nokia nor Microsoft took a license with them.
6 Their specific response, I don't recall.

7 Q. In your report, Mr. Nawrocki,
8 didn't you say that you understood that Nokia
9 said that it stated that it was not interested
10 in a license at the time?

11 A. That sounds familiar.

12 Q. And isn't it also true that
13 Microsoft didn't even bother to respond?

14 A. Yes, some companies don't respond.

15 Q. And, in this instance, Microsoft
16 didn't respond to ACI's offer to license the
17 '550 patent?

18 A. That's my understanding.

19 Q. Now, Mr. Nawrocki, in determining
20 what kind of terms the parties would actually
21 come to, do you agree that it would be relevant
22 to consider the kinds of agreements that they've
23 negotiated?

24 A. Yes, that's a consideration.

1 Q. Did you look at any License
2 Agreements from ACI for the '550 patent?

3 A. ACI was not able to license the
4 '550 patent.

5 Q. So of all of the companies and
6 people in the world, ACI has never succeeded in
7 licensing the '550 patent to anybody?

8 A. To my knowledge, Google is the
9 only company -- I shouldn't say that -- to my
10 knowledge Google is the only company that has
11 been accused at this point.

12 Q. Mr. Nawrocki, I really would
13 appreciate it if you would answer my question.

14 A. I'm not aware of any of other
15 licenses or any licenses that ACI has on the
16 '550 patent.

17 Q. ACI has never succeeded in
18 licensing the patent on a per-session basis,
19 have they?

20 A. That's correct.

21 Q. ACI has never succeeded in getting
22 someone to pay them a running royalty for the
23 '550 patent?

24 A. That's correct.

1 Q. And ACI has certainly never gotten
2 somebody to pay them a cent or a cent-and-a-half
3 for the '550 patent, did they?

4 A. That's my understanding.

5 Q. In fact, ACI has never received
6 any revenue for the '550 patent?

7 A. Unfortunately, that's correct.

8 MR. SNYDER: Could we turn to 115,
9 please.

10 Turn, please, to Page 4.

11 BY MR. SNYDER:

12 Q. This is a slide that you talked
13 about during your direct, Mr. Nawrocki?

14 A. Yes, this is that summary of
15 direct revenue that we talked about earlier.

16 Q. In this document, Mr. Nawrocki,
17 you pointed out that Earth Pro revenues had
18 increased substantially in 2006 compared to
19 2005?

20 A. Yes, by the top bullet point
21 there, a hundred percent -- Earth Pro revenues
22 increased by a hundred percent compared to 2005.

23 Q. Now, there's nothing in this
24 document indicating what they expect to make

1 over the next several years from Earth Pro, is
2 there?

3 A. Yes, there is.

4 Not on this page, but on other
5 pages within the document there is. If you look
6 at Page 9, it talks about growing at 38 percent.

7 Q. And that's Pro revenue?

8 A. That's the Pro revenue expected to
9 grow by 38 percent per year.

10 Q. And then you also pointed out that
11 on this Page 4 of the slide that there was a
12 reference to Earth Enterprise revenue increasing
13 by 200 percent compared to 2005, right?

14 A. Earth Enterprise revenue increased
15 by 200 over 2005.

16 Q. So that's 2006 compared to 2005?

17 A. Yes, that's true.

18 Q. Now, the revenues from Pro in
19 2005, were pretty small, weren't they?

20 A. Relatively speaking to other
21 products within Google.

22 But in Pro, they are the second
23 largest -- if you look at 2006 -- it's 11
24 million compared to the second highest one, 14

1 million for Maps.

2 Q. In the Geo group, correct.

3 A. Within the Geo direct group or
4 direct revenue.

5 Q. Now, this was -- in 2005 Earth Pro
6 was sold for a licensing fee, as you pointed
7 out, correct?

8 A. Yes.

9 Q. And Earth Enterprise was sold for
10 a licensing fee also?

11 A. Yes, Pro was for \$400. On the few
12 pages before it, enterprise varied from
13 approximately 100 to 400.

14 Q. And Google had introduced Google
15 Free?

16 A. Yes.

17 Q. And before 2005, had there been
18 any version of Earth or the Earth viewer product
19 that was free?

20 A. Not to my knowledge. I couldn't
21 say affirmatively, but not to my knowledge.

22 Q. Now, you pointed out that the
23 number of uses of Earth is about 7.1 billion,
24 the number of sessions?

1 A. Yes, from the period of 2000 --
2 the middle of 2010, through April of this year
3 in the U.S with those adjustments.

4 Q. Did you determine what portion of
5 those are from a free version of Google Earth
6 versus a licensed version of Google Earth like
7 Pro or Enterprise?

8 A. There was some information that
9 Google introduced involving applications that
10 showed how many were iPad, iPod, things such
11 that.

12 Why I'm hesitating is, there was
13 some information on Free. I don't remember
14 having the Free identified by session.

15 Q. Mr. Nawrocki, in your opinion
16 today --

17 A. Yes.

18 Q. -- what you've described for the
19 jury, did you identify the proportion of those
20 7.1 billion uses that are free versus ones that
21 the user had to pay for?

22 A. I understand your question now.

23 And, so, the seven billion are the
24 total uses. That would include all the uses by

1 the different platforms.

2 Q. Would you agree with me that it's
3 more likely that people are going to use a free
4 version of a product than one that they have to
5 pay for?

6 A. It depends on what we are they're
7 using it for. So a business user who is trying
8 to use it in an oil and gas application where
9 they need to make all sorts of measurements,
10 he's more inclined to probably use the paid
11 because it has more features. Consumers would
12 probably use the free application on their phone
13 or I use the free version on my desktop at home,
14 so it depends on the use. So again, a business
15 user in a real estate or oil and gas would
16 probably use the paid version.

17 Q. Have you identified for the jury
18 what proportion of Google users are these oil
19 and gas people that might use it more often?

20 A. That the data that they produced
21 doesn't show that, it shows certain information
22 by customer.

23 Q. That was your example,
24 Mr. Nawrocki, I'm asking what you told the jury

1 today?

2 A. The data that Google produced
3 doesn't break it down in terms of sessions by
4 customer, they'll break it down by platform, but
5 either for privacy or other reasons, they don't
6 provide the session information for a specific
7 customer.

8 Q. Now, in -- you pointed out looking
9 at this document that Earth's was about 50
10 percent of the revenue for the Geo group in
11 2006?

12 A. And that's why I paused. For the
13 50 percent of the direct revenues. There was
14 another slide that had indirect which was I
15 think more identified for, for the direct
16 revenues it was more than 50 percent.

17 Q. It was just in the previous year
18 that Google had introduced a free version of
19 Earth?

20 A. Yes, so this was 2006. It was
21 2005 when they introduced the free version.

22 Q. You didn't identify for the jury
23 any documents indicating whether Google expected
24 Earth Pro or Earth Enterprise to continue to be

1 about 50 percent of Geo revenues in subsequent
2 years, did you?

3 A. Well, I'm pausing because there is
4 information I have, but I'm -- I'm pausing on
5 the stuff I have after 2005.

6 Q. Mr. Nawrocki, I'm asking for what
7 you presented to the jury.

8 A. So there is information that I
9 have, but I haven't presented that to the jury,
10 but there has been some discussion with the
11 courts.

12 Q. My question, Mr. Nawrocki, was
13 very specific.

14 A. Go ahead.

15 Q. Did you present to the jury any
16 information regarding Google's expectations
17 about the amount, the percentage of Google Earth
18 revenue for the Geo segment?

19 A. I know that information, but that
20 information hasn't been disclosed.

21 Q. Currently all of the versions of
22 Google Earth are free; correct?

23 A. When you say currently, you mean
24 as of today?

1 Q. I mean today.

2 A. Why I am pausing is because there
3 was a bit of testimony that the Enterprise
4 product that was sold for hundreds of dollars
5 per user has I believe no longer been supported
6 or minimal support, but I don't believe it's
7 available today currently, so as of today I
8 believe it's just -- I believe it's just free.

9 Q. That's a question I'm asking,
10 Mr. Nawrocki. And if you could answer my
11 question, that would be helpful.

12 A. The only reason I'm pausing, when
13 you're saying today, I want to make sure they
14 don't do it as of whenever. To my knowledge
15 currently only available free, I don't think
16 there is a charge if you download that app on
17 your phone.

18 Q. So Google does not receive any
19 money when people use the Google Earth product;
20 correct?

21 A. Well, I would disagree with that.
22 Google receives plenty of money in ads when they
23 use that free product.

24 Q. Mr. Nawrocki, currently Google

1 does not include any ads in the Google Earth
2 product, does it?

3 A. There is a variety of ads or
4 advertisements or information that they receive
5 from this network effect that we talked about.
6 When you go on Google --

7 Q. Mr. Nawrocki, can you answer my
8 question, please?

9 A. I am.

10 Q. I don't think you are.

11 A. Go ahead.

12 Q. Does Google include in Google
13 Earth any ads?

14 A. If you're referring to banner ads,
15 not to my knowledge. Is there other advertising
16 means that Google can monetize? My
17 understanding is yes.

18 Q. I didn't ask you about monetizing,
19 Mr. Nawrocki. Perhaps I'm not communicating
20 very well. Ads that are in Google Earth, are
21 there any ads in Google Earth today?

22 A. When you're saying ads --

23 MR. HAWES: Your Honor, your order
24 concerns how far out we can get into

1 information. I think this is going beyond what
2 your order limits.

3 THE COURT: Overruled.

4 A. So when you're saying ads, if you
5 mean advertisements, there is advertisements and
6 advertising revenues that Google receives from
7 that. Is there an ad that shows up like a
8 commercial on Google Earth? That doesn't
9 happen.

10 Q. That doesn't happen?

11 A. Doesn't happen on Maps where an ad
12 would necessarily show up.

13 Q. There are three different types of
14 accused products; correct? There is Google
15 Earth 7 and its predecessors; right?

16 A. Well, I believe it's Google Earth
17 8, I think, and predecessors.

18 Q. Is that your understanding?

19 A. There is a group 2 that was talked
20 about in Dr. Castleman, and there were several
21 groups, he identified the accused products.

22 Q. So let's -- his group 1 was --
23 I'll represent to you was Google 7 and previous
24 versions?

1 A. That was group 1.

2 Q. And that version does not contain
3 ads; correct?

4 A. I didn't look at it by version in
5 terms of whether the ads were there.

6 Q. Mr. Nawrocki, you're the one that
7 just brought up the category. I'm trying to get
8 some answers here.

9 A. I understand. I don't know by
10 version which one had advertisements on it.

11 Q. Google 8 for Android does not
12 include any ads, does it?

13 A. And again by ads, do you mean
14 commercials showing or banner ads?

15 Q. That's correct.

16 A. To my knowledge, no, but that's
17 not how they obtain advertisements.

18 Q. And Google Pro does not contain
19 any advertising, does it?

20 A. To my knowledge there is
21 advertising and advertising revenues they
22 receive based upon Google Pro and all the usage
23 by the users of these products. Again, there
24 might not be an ad showing on the product, but

1 that's not to say in the back they don't receive
2 money from those ads from the advertisers.

3 Q. Mr. Nawrocki, can you answer my
4 question, does Google Pro contain ads?

5 A. Let me tell you why I can't.
6 Because you're using the term ads as a broad
7 representation. We might all know what ads are,
8 like an advertisement that shows up on TV or a
9 banner ad, and to my knowledge there are none of
10 those done on those products. However, that's
11 not to say Google is not receiving revenues from
12 advertisements or Google is not receiving
13 revenue from their advertising model for those
14 products. That's my hesitation.

15 Q. My question was, does Google Pro
16 contain ads, can you answer that question?

17 A. Not banner ads to my knowledge.

18 Q. Does Google Pro contain any kind
19 of ads?

20 A. Well, if it's any kind of ad, I
21 would say there are advertising revenues they
22 receive.

23 Q. I didn't ask you whether it
24 contained advertising revenues, Mr. Nawrocki.

1 I'm trying to ask you a simple question. Does
2 Google Pro contain ads?

3 A. I don't know for sure.

4 Q. Has Google Pro ever contained ads?

5 A. I don't know for sure.

6 Q. Google Enterprise does not contain
7 ads, does it?

8 A. Not to my knowledge.

9 Q. Google Enterprise has never
10 contained ads; isn't that true?

11 A. That's the business application
12 where they're receiving the 300. To my
13 knowledge they don't receive ads or ad revenue
14 on that. They might, but not to my knowledge.

15 Q. And the free versions of Google
16 Earth, they currently do not contain ads,
17 either; correct?

18 A. What the current state is in terms
19 of what ads they show, I know when you go on
20 Google Earth there is a variety of pop ups,
21 balloons, et cetera, within that overall Google
22 Earth experience. What their monetization of
23 that is, if you want to call that an ad. I know
24 when I go on Google Earth, I'm looking for

1 Walgreens, the Walgreens popped up, several
2 other Walgreens popped up. Whether or not
3 Google Earth is monetizing that, I couldn't say
4 for certain. But those ads are showing up. I
5 will get Walgreens banners and everything else
6 showing up all over the Google Earth platform.

7 Q. So to the best of your knowledge
8 the free versions of Google Earth do not contain
9 any ads, do they?

10 A. How Google is specifically
11 monetizing all of that information that shows
12 up, I couldn't say.

13 MR. SNYDER: Thank you,
14 Mr. Nawrocki. No more questions.

15 REDIRECT EXAMINATION

16 BY MR. PARTRIDGE:

17 Q. Mr. Nawrocki, there were several
18 discussions of what was happening in 2006. Do
19 you remember?

20 A. Yes.

21 Q. Could we pull up Plaintiff's Trial
22 Exhibit 15. And if you could -- if we could
23 scroll down to -- there we are. This is that
24 summary of the call, do you remember the summary

1 being discussed?

2 A. Yes.

3 Q. And I remember counsel for Google
4 discussed the second bullet point and the third
5 bullet point. Look at the first bullet point
6 because that wasn't ever discussed. Do you see
7 that?

8 A. Yes.

9 Q. Google viewed and told ACI viewed
10 this patent as a nice to have patent. Do you
11 see that?

12 A. Yes, I do.

13 Q. Is the assumption in the
14 hypothetical negotiation that the patent is nice
15 to have?

16 A. No, I haven't heard that within
17 the hypothetical construct. It's supposed to be
18 a valid and infringed patent and you're supposed
19 to work out a deal for this valid and infringed
20 patent.

21 Q. So the assumption is the patent is
22 infringed; right?

23 A. Yes.

24 Q. Not that it's nice to have?

1 A. That's correct.

2 Q. Now, were you here when Mr. Mayer
3 testified on Monday?

4 A. Yes, I was.

5 Q. And did Mr. Mayer testify about a
6 discussion that he had with Mr. Michael Jones?

7 A. Yes, several discussions, I think.

8 Q. And what did Mr. Mayer testify
9 with regard to, what Mr. Jones told him about
10 whether Google was using the patent?

11 A. My recollection was there was some
12 discussion about them not using it or not
13 thinking they were using that patent. There was
14 other means they were doing. I can't recall the
15 exact testimony, but basically suggesting they
16 weren't using the patent is what I recall.

17 Q. So you for all this 2006 stuff we
18 saw, at that point Mr. Mayer told us that he had
19 been told they weren't using the patent?

20 A. That's my recollection.

21 MR. HAWES: No further questions,
22 Your Honor.

23 THE COURT: Any recross?

24 MR. SNYDER: No further questions,

1 Your Honor.

2 THE COURT: Now comes the time for
3 the jury to ask questions. If any members of
4 the jury have questions.

5 JUROR: Your Honor, may I use the
6 restroom really quick?

7 THE COURT: Why don't we take our
8 ten-minute morning break. We're going to
9 truncate it a little bit. We'll recess for ten
10 minutes.

11 (Jury leaving the courtroom at
12 10:48 a.m.)

13 THE COURT: Sit down. Is there
14 anything further before we break?

15 MR. HAWES: Not from plaintiff,
16 Your Honor.

17 MR. SNYDER: No, Your Honor,
18 although we are going to have a motion. I don't
19 know what question the jury may come up with,
20 but we are going to have a motion at the close
21 of plaintiff's case, and under 50(a). And I'm
22 also going to have a motion specific to
23 Mr. Nawrocki's testimony.

24 THE COURT: We'll deal with that

1 at the appropriate time. Let's recess for ten
2 minutes.

3 (A brief recess was taken.)

4 THE COURT: Be seated, please.
5 Why don't we bring the jury back in.

6 MR. SNYDER: Your Honor, before
7 the jury returns, may I be heard on an issue
8 with Mr. Nawrocki's testimony or would you
9 prefer that we take the jury's questions?

10 THE COURT: I prefer that we do
11 the jury questions and then we'll have your Rule
12 50 motions. We'll have to have the jury out.
13 Is it something that needs to be resolved before
14 the Rule 50 motion?

15 MR. SNYDER: Depending on the
16 questions we get from the jury, it may be.

17 THE COURT: Why don't you tell me
18 what it is.

19 MR. SNYDER: The issue, Your
20 Honor, relates to Mr. Nawrocki's testimony about
21 a ten cent per user proposal. And at the time
22 that Mr. Nawrocki mentioned that proposal, I
23 objected that it was related to 2010.

24 ACI's counsel represented that it

1 was in his report. And it is referenced in his
2 report, but that is incredibly misleading and
3 contrary to Your Honor's order regarding the
4 parameters of Mr. Nawrocki's testimony.

5 Mr. Nawrocki -- it is from -- that
6 reference to a ten cent per user proposal is
7 from 2010. It's Plaintiff's Exhibit 123.

8 THE COURT: This is not something
9 we have to deal with now. I want to bring the
10 jury back in, get the question and then we'll
11 let them take a break and then we'll come back
12 and have all your motions.

13 MR. SNYDER: Thank you, Your
14 Honor. I will renew this if the questions
15 relate to that per user amount.

16 THE COURT: We'll see what
17 happens.

18 MR. HAWES: Your Honor, can we
19 bring Mr. Nawrocki back?

20 THE COURT: Yes. He should come
21 up and sit in the stand.

22 (Jury entering the courtroom at
23 11:01 a.m.)

24 THE COURT: And now do we have any

1 questions from the jury for Mr. Nawrocki?

2 The jury has no questions.

3 So Mr. Haase, that concludes the
4 plaintiff's direct case; is that correct?

5 MR. HAWES: Actually I need to
6 enter the exhibits into the record, Your Honor,
7 and then I can sit down.

8 THE COURT: Yes.

9 MR. HAWES: Your Honor, the
10 plaintiff offers Plaintiff's Trial 158, 115,
11 167, 271, 45, 350, 55, 72, 73, 198, 66, 190,
12 200, 31, 160 and 219.

13 THE COURT: Any objection?

14 MR. SNYDER: I object to 219, Your
15 Honor. That is a 2010 document.

16 THE COURT: That's overruled.
17 They're admitted into evidence.

18 MR. HAWES: Thank you, Your Honor.
19 Plaintiff rest.

20 MR. SNYDER: And Defendants move
21 into evidence Defendant's exhibit 1071.

22 THE COURT: Any objection?

23 MR. HAWES: No, Your Honor, no
24 objection.

1 THE COURT: That's admitted into
2 evidence.

3 THE COURT: Members of the jury,
4 we're going to recess for a little while now.
5 We have some housekeeping matters before the
6 Defendant begins its case and so we ask you to
7 leave the courtroom. Please again, don't
8 discuss the case while you're waiting for us to
9 conclude. We'll try to make this as quick as we
10 can.

11 (Jury exits)

12 THE COURT: Okay. Mr. Snyder.

13 MR. SNYDER: Should Mr. Nawrocki
14 be excused, Your Honor.

15 THE COURT: Yes. Now, he's
16 excused. Is he subject to recall?

17 MR. SNYDER: Not by us, Your
18 Honor.

19 MR. PARTRIDGE: Your Honor,
20 there's a possibility we'll be calling him in
21 our rebuttal case.

22 THE COURT: Okay. So thank you.
23 For the moment, Mr. Nawrocki, you're excused.

24 THE WITNESS: Thank you, Your

1 Honor.

2 MR. SNYDER: I don't have a menu
3 up here. Your Honor, Defendants move under Rule
4 50A for a directed verdict. We also move to
5 strike Mr. Nawrocki's testimony. There are
6 several grounds for the 50A motion, but let me
7 start with the issue of damages in Mr.
8 Nawrocki's testimony.

9 Mr. Nawrocki did not offer an
10 opinion on damages. He identified a number of
11 factors, but did not at the conclusion of his
12 testimony identify any rate that he believed
13 would be appropriate. In fact, they studiously
14 avoided including any specific rate and
15 presented their slide number 7, which has a
16 royalty rate, a base of 7.1 billion sessions and
17 leaves open the issue of a royalty rate and the
18 total amount. Without having offered an
19 opinion, there's nothing for the Plaintiff to
20 rely on. It would be improper for the jury to
21 rely on it. And Mr. Nawrocki's testimony should
22 be struck.

23 A separate and independent reason
24 related to or reason why Mr. Nawrocki's opinion

1 should be struck relates to his improper
2 reference to a 10 cents per use communication.
3 The only evidence of that is from a 2010 e-mail,
4 which has been marked as Plaintiff's exhibit
5 123. When I objected to that e-mail,
6 Plaintiff's response was that it was in his
7 report, but it is in his report only in the
8 context of a 2010 hypothetical negotiation and
9 their use of that e-mail and introduction to
10 that, that evidence before the jury was in
11 direct violation of Your Honor's order and
12 extraordinarily prejudicial. And what I fear
13 they're planning to do, because it is directly
14 in Mr. Nawrocki's report, is use that
15 information to suggest to the jury that a
16 royalty of as much or a payment of as much as
17 \$700 million would be appropriate given the 7.1
18 billion sessions that they've identified. This
19 isn't speculation on my part. This is from Mr.
20 Nawrocki's report. He specifically refers to a
21 November 2010 e-mail from Pavel Mayer of ACI to
22 Tim Porter of Google. And that's in that e-mail
23 he says ACI stated that a typical user based
24 licensing model would be on the order of \$1 per

1 usage, a usage based model in the order of 10
2 cents per usage. This is the e-mail that he was
3 referring to and the testimony we objected to.
4 Mr. Nawrocki then applies that to his sessions
5 of 7.1 billion and comes up with a total of \$710
6 million. Having that in front of the jury is
7 enormously prejudicial. It's also very clear,
8 Your Honor, that Mr. Nawrocki only used that
9 e-mail in the context of a 2010 hypothetical
10 negotiation date. This is from paragraph 7 of
11 his report as discussed throughout this report
12 in order to determine the appropriate royalty
13 that's applicable in this case, says I
14 considered the rates ACI sought for licensing
15 the patent at issue at the time of a
16 hypothetical negotiation in 2010.

17 He then goes on to talk about the
18 number of activations and continues in that
19 paragraph to refer to that same 10 cents per
20 user rate and the possible \$710 million. And I
21 fear what they're going to do, Your Honor, is
22 take Mr. Nawrocki's testimony and that 10 cents
23 per use rate that was entered into over
24 objection and suggest that there could be an

1 award of as much as \$700 million and that they
2 would be, only be conservative by asking for a
3 cent and a half and therefore order a hundred
4 and plus million dollars. That is exactly the
5 kind of prejudice that the Federal Circuit has
6 repeatedly recognized. If you anchor by using
7 some gigantic number and then pretend you're
8 being conservative or restrained by using a
9 smaller number, it's completely inappropriate
10 and prejudicial and it's directly contrary to
11 Your Honor's instructions about the 2005 date,
12 not the 2010 date.

13 So Mr. Nawrocki's opinions and
14 testimony should be struck and I believe it
15 would be appropriate to issue a curative
16 instruction to the jury that that 10 cents per
17 use amount cannot be used because of the date of
18 the hypothetical negotiation.

19 THE COURT: As I understand that
20 document, it's referring to a general concept of
21 royalty rates, not tied in any way to a
22 particular time and I think that's the purpose
23 for which he was using it. So I'm going to deny
24 your motion to strike. Is there more you would

1 like to say about your Rule 50 motion?

2 MR. SNYDER: There is, Your Honor.

3 Defendant Google is entitled to a directed
4 verdict on the issue of infringement for several
5 reasons. First, there is no evidence that
6 several steps of the only independent claim,
7 Claim 1, are performed. In particular, there is
8 no evidence that the two subparts of Step F,
9 storing and representing, are ever performed.
10 The only evidence that's been presented was from
11 Mr. Castleman and all he testified to, all he
12 said was yes, they are performed, in response to
13 a leading question. He presented no testimony,
14 he presented no explanation. That's all there
15 was.

16 Second, related to that same
17 subsection F, there is no evidence, and in fact,
18 Mr. Castleman agreed that you do not have a
19 representation of or a request for each of the
20 subsections. And let me try and be a little bit
21 clearer. The second subpart of Step F of Claim
22 1 requires that you request each of the
23 subsections. Mr. Castleman was asked on direct,
24 do you have to request each of the children in

1 order to have infringement? And he said yes,
2 which is consistent with Your Honor's ruling on
3 claim construction. He was then asked, in the
4 Google product, do you request each of the
5 subsections? And he specifically testified that
6 he did not do that analysis. So there is no
7 evidence in the record on which the jury could
8 find that that step has been met.

9 Third, Your Honor, related to Step
10 G, there is no evidence that Step G is ever
11 performed. Mr. Castleman testified consistent
12 with the Court's claim construction, that you
13 have to go through each of the four parts of
14 Step F before you perform Step G. You can't do
15 G until you finish F. Because Step F is never
16 performed or there is at least insufficient
17 evidence for the jury to find that Step F is
18 performed, you can't perform Step G. There is
19 no evidence on which the jury could find that
20 there is.

21 There are two other separate
22 issues related to infringement, Your Honor.
23 First, one part of Mr. Castleman's categories
24 relates to the Enterprise products and to the

1 Audi products. Mr. Castleman did not testify
2 that the use of those products by Google
3 infringes. In fact, he admitted that he has no
4 evidence of it. All of the claims at issue in
5 this case are method claims, 1, 3, 14 and 28.
6 You have to of course perform the method in
7 order to infringe. And Mr. Castleman agreed
8 that merely providing the software does not
9 infringe those methods. That software is then
10 provided to other users, like the users of the
11 Enterprise product, it is then provided to Audi,
12 and he does not have any evidence and had no
13 opinion on whether the users of those, whether
14 Google uses those products. That is somebody
15 else. Google can't be held responsible for
16 that.

17 Finally Your Honor, and this will
18 relate specifically to the jury instructions,
19 should we get that far, but this should be taken
20 out of the case. There is no evidence of
21 Doctrine of Equivalence. Mr. Castleman did not
22 provide an opinion on Doctrine of Equivalence
23 and there should be no further reference to that
24 in the case whatsoever.

1 The last issue, Your Honor,
2 relates to whether the '550 Patent claims patent
3 eligible subject matter and it does not. We
4 previously brought a motion under Section 101
5 and Judge Andrew denied it. In part he denied
6 it because there was an ordered combination of
7 steps. But Mr. Mayer and Mr. Schmidt both
8 confirmed that there is nothing about their,
9 their claims that includes any specific
10 hardware. There's no invention for the
11 performance of those ordered steps. And as the
12 Federal Circuit recently identified in TLI, if
13 you're going to pass step number two and have
14 that inventive element, you have to actually
15 have invented something. And one way you can do
16 that is with specialized hardware. That is not
17 present here. The only reference is using a
18 computer and both Mr. Mayer and Mr. Schmidt
19 testified that they used a commercially
20 publically available computer for the
21 performance of those tests. The thing that's
22 left then is this algorithm that describes the
23 steps and that should not be eligible for patent
24 protection in the United States under current

1 law.

2 I would like your -- I've tried to
3 describe these as best I can, Your Honor. I
4 would like the permission to file in writing on
5 your motion under 50A, but I do believe this
6 identifies all the relevant grounds that would
7 justify finding a verdict in Defendant's favor.

8 THE COURT: All right. You may
9 file a written motion. I am going to deny the
10 motion with respect to everything, except I have
11 one concern, and that is I did not hear any
12 evidence about the Doctrine of Equivalence.

13 MR. SPEARS: The Court is correct,
14 and to that extent, ACI's motion should be
15 granted. It should not appear in the jury
16 instructions or the verdict form.

17 THE COURT: All right. Thank you.
18 The Defendant's motion for judgment on the
19 Doctrine of Equivalence is granted and that will
20 be removed from the final jury instructions. In
21 other respects, the Rule 50 motion is denied.

22 MR. SNYDER: Thank you, Your
23 Honor.

24 MR. HAWES: Your Honor, will you

1 want us to respond to the written submission?

2 THE COURT: Yes, I think you
3 should respond to the written submission. What
4 is the written submission --

5 MR. HAWES: Can we have a page
6 limit?

7 THE COURT: Page limit. 10 pages
8 each. Double spaced.

9 MR. SNYDER: Could we have 15,
10 Your Honor?

11 THE COURT: No, I think 10 is
12 enough.

13 MR. HAWES: Thank you, Your Honor.

14 THE COURT: And why don't you file
15 that 5 o'clock tomorrow and response to that, I
16 guess noontime on Friday, is that doable? Do
17 you need more time than that?

18 MR. HAWES: Can we have one day,
19 Your Honor? Can we at least have 5 o'clock.

20 THE COURT: 5 o'clock. Anything
21 further we need to address before Google begins
22 its case?

23 MR. HAWES: Not from Plaintiff,
24 Your Honor.

1 MR. SNYDER: Nothing further, Your
2 Honor.

3 THE COURT: Okay. Thank you. Why
4 don't we bring the jury back in.

5 (Jury entering the courtroom at
6 11:20 a.m.)

7 THE COURT: Be seated. Please.
8 Welcome back members of the jury. We'll now
9 proceed with Google's case.

10 Mr. Snyder.

11 MR. SNYDER: Thank you, Your
12 Honor. As Google's first witness, we call the
13 corporate representative, Mr. Peter Birch.
14 Peter Birch is an engineer and senior project
15 manager at Google. He's going to testify about
16 the background of the Google Earth product and
17 how it operates and presents images on a user's
18 device. He's also going to provide information
19 about the financial aspect of the Google Earth
20 products.

21 May I approach the witness, Your
22 Honor.

23 THE COURT: Let him be sworn
24 first.

1 THE CLERK: Please state and spell
2 your name for the record.

3 THE WITNESS: P-E-T-E-R,
4 B-I-R-C-H.

5 PETER BIRCH,
6 the deponent herein, having first
7 been duly sworn on oath, was
8 examined and testified as follows:

9 DIRECT EXAMINATION

10 BY MR. SNYDER:

11 Q. Good morning, Mr. Birch.

12 A. Good morning.

13 Q. Could you please introduce
14 yourself to the jury?

15 A. Certainly. My name is Peter
16 Birch.

17 Q. Who do you work for?

18 A. I work for Google.

19 Q. How long have you worked for
20 Google?

21 A. As of the -- coming Monday it will
22 be ten years.

23 Q. What is your current position with
24 Google?

1 A. My current position is senior
2 product manager for Google Earth Engine.

3 Q. And what other positions have you
4 held at Google?

5 A. I also work on basically as a role
6 of PM Emeritus for the Google Earth products.
7 And then in the past I have been the sole
8 product manager for the Google Earth product
9 family.

10 Q. How long were you the sole product
11 manager for the Google Earth family?

12 A. I started in 2006 until
13 approximately 2012.

14 Q. Mr. Birch, what is Google?

15 A. So Google is a company. Our
16 mission is to organize the world's information
17 and make it universally useful and successful.
18 We make products like Google Search and G-mail
19 and various other products to really help people
20 get access to information.

21 Q. What is Google Earth?

22 A. So Google Earth is an application
23 that you can download on to your computer or
24 phone or tablet, and it allows you to fly around

1 the world. So you can type in your home
2 address, you can -- maybe you want to go back to
3 where your parents came from and you want to
4 learn about when they grew up. Maybe you're
5 thinking of planning a virtual vacation. So
6 it's really a portal or a way to teleport
7 yourself to anywhere in the world.

8 Q. Have you brought an example to
9 show the jury to help illustrate your testimony,
10 Mr. Birch?

11 A. Yes, I have.

12 So here you can see this is a
13 screen shot from Google Earth. And as you can
14 see on the right-hand side is a picture of the
15 globe out in space. And we have actually shown
16 that we're drawing the country borders as well.
17 On the left-hand side there is a search box and
18 some other features. This is showing the
19 desktop version of Google Earth.

20 Q. How does Google Earth relate to
21 Google's mission?

22 A. I talked about this idea of
23 organizing the world's information. It turns
24 out that a lot of information about the world

1 and the planet we live on. And a lot of that
2 information has typically been satellite
3 imagery, has only been accessible to scientist
4 and researchers and people in the industry. But
5 bringing in data into Google Earth we have made
6 that available to millions of people around the
7 world.

8 Q. What are some of the ways that
9 Google Earth is used?

10 A. So Google Earth is used in a lot
11 of different ways. In fact, I have a couple of
12 example videos if we can bring those up.

13 So this, if you go ahead and click
14 start. Here is an example of learning a little
15 bit about history. So what we're going to do is
16 we're going to fly in Philadelphia and here you
17 can see the stadiums in Philadelphia.

18 But what we can do is go back in
19 time so you can actually see the old stadiums.
20 You can see the Spectrum. And it's getting torn
21 down and replaced. So now where the 76ers play.

22 And then over here on the left you
23 can start to see the Eagle's stadium being
24 built. Now, the new Phillies stadium is being

1 constructed. And then finally the upper
2 right-hand side you can see the old stadium
3 being demolished. This is a really great way to
4 learn something about your community.

5 Q. Did you bring another video to
6 illustrate how Google Earth can be used?

7 A. Yes, I did. This is something
8 many of us may have experienced, flying to your
9 house or flying somewhere that you're interested
10 in. Again, we're flying into Philadelphia and
11 in this case we're looking at a very significant
12 building in American history which is
13 Independence Hall. So we're going to fly down
14 and you can see we have 3D models of all the
15 buildings, all the trees in the area and then
16 right here in the center you can see
17 Independence Hall. We do this nice cinematic
18 fly around. It really gives you a sense of what
19 this place is like and encourage you to come out
20 and visit.

21 Q. Mr. Birch, how did you get
22 involved with Google Earth?

23 A. So I started on Google Earth
24 immediately while joining Google. And my

1 involvement with that was really based on my
2 past experience working in things like computer
3 graphics.

4 Q. What was your responsibilities as
5 the sole product manager for Google Earth?

6 A. So I was responsible for all
7 aspects of the product. So that included things
8 like product strategy, coming up with feature
9 definition, timelines, kind of managing
10 schedules, working very closely with the
11 engineers; also dealing with marketing,
12 financials, projections, working with press.
13 There is -- obviously this is a very well-known
14 public product, so I did a lot of press
15 interviews and other types of outreach
16 activities working with the legal team and all
17 the things that are related to running a
18 product.

19 Q. Mr. Birch, you mentioned earlier
20 you're now the PM Emeritus of Google Earth?

21 A. That's correct.

22 Q. What roles does that entail?

23 A. That's kind of a title I use to
24 describe my role on the current Earth

1 development. There is a new team working on
2 some future version of Earth and they're pretty
3 new to the product. Most of the older team has
4 moved on, but I have a lot of the history and
5 the knowledge and experience with that product,
6 and so I regularly advise that team. Of course,
7 I sit just a few feet away from them and meet
8 with them regularly to talk about some of the
9 aspects of the product and history.

10 Q. Mr. Birch, why have you come to
11 court to testify?

12 A. I'm here as Google's
13 representative, so I'm here to be the face of
14 the company, to talk about what Google is about,
15 what Google Earth is about, and to help the jury
16 and others here in the court to better
17 understand Google.

18 Q. What did you do immediately before
19 working at Google?

20 A. So immediately prior to Google I
21 worked at Microsoft. And I was the graphics
22 hardware lead for the xBox 360 gaming system.
23 And that entailed basically managing all of the
24 architecture and silicon development for the

1 graphics processing unit for the xBox 360
2 system.

3 Q. Before Microsoft where did you
4 work?

5 A. Before Microsoft I worked at a
6 company called Silicon Graphics, or SGI, which
7 you may have heard of earlier this week, which
8 is a company that built high performance 3D
9 graphics visualization workstations.

10 Q. What did you do at SGI?

11 A. So at SGI for the first seven
12 years or so, I worked as an architect for
13 basically designing 3D graphics, workstations.
14 So there is this mention of a graphics
15 processing unit that's been mentioned earlier.
16 I designed and built those.

17 And then in the later years I
18 worked in software development in graphics,
19 library software dealing with various graphs,
20 scene graphs and tree structures for
21 representing 3D graphics.

22 Q. Mr. Birch, have you received any
23 educational degrees?

24 A. Yes, I have. I have a bachelors

1 of science in electronic engineering from Cal
2 Poly State University and I have a masters of
3 business administration from the University of
4 California and Berkley.

5 Q. Are you the named inventor on any
6 patents?

7 A. Yes, I am.

8 Q. How many patents?

9 A. Five.

10 Q. Do any of your patents relate to
11 Google Earth?

12 A. Two of them do, yes.

13 Q. Generally speaking, what do those
14 cover?

15 A. Those particular patents are
16 related to basically hand gestures for
17 controlling Google Earth on a phone or tablet
18 device, how you might navigate and move the
19 globe, or the ways we control the camera in that
20 application.

21 Q. Mr. Birch, is Google Earth part of
22 any product area at Google?

23 A. Yes, it's part of what we call the
24 Geo product area.

1 Q. What does Geo refer to?

2 A. Geo is short for geographic. And
3 it basically means all the mapping products that
4 Google makes.

5 Q. What products are in the Geo
6 product area?

7 A. So the most dominant and most
8 important one is obviously Google Maps. We also
9 have other products like StreetView which is
10 kind of a sub-brand if you will of Google Maps.
11 We have a division that we call Terrabella which
12 specializes in satellite analytics which is more
13 of an Enterprise focused product, and, of
14 course, Google Earth.

15 Q. What is the difference between
16 Google Earth and Google Maps?

17 A. So Google Maps, the way I like to
18 describe it, Google Maps is a tool to help you
19 find your way in the world. It's really focused
20 on daily use and helping people answer
21 questions, like how do I get to this courtroom
22 and get directions, where is a good restaurant
23 or is this store open today, very day-to-day
24 utility functions. Google Earth is really

1 intended to be kind of a fun entertainment
2 product for just browsing and exploring the
3 world.

4 Q. How many people work in the Geo
5 product area?

6 A. There is about 2000 people.

7 Q. Of those, how many work on Google
8 Maps?

9 A. The vast majority of them work on
10 Google Maps.

11 Q. How many of them work on Google
12 Earth?

13 A. There is about fifteen people.

14 Q. Why does Google Maps have so many
15 more people working on it than Earth?

16 A. Well, Google Maps is the flagship
17 product for the division. Again, this is the
18 product that everybody uses. Not everyone uses,
19 but we intend for people to use on a daily
20 basis. If possible it has far more traffic than
21 a product like Google Earth. It's ten times the
22 number of users. It's really the main product
23 that we produce.

24 Q. When did Google first release

1 Google Earth?

2 A. It was released in I believe June
3 of 2005.

4 Q. Why did Google release Google
5 Earth?

6 A. Well, we released it because we
7 wanted to make a product that we thought was,
8 you know, exciting and interesting for users.
9 And, you know, it has a really -- you know, the
10 first time people have used Google Earth they
11 get a feeling of wow. And we wanted to create
12 that kind of excitement for our users.

13 Q. Did Google acquire any of the
14 material for Google Earth from another company?

15 A. Absolutely. So we acquired a
16 company called Keyhole in 2004 which I believe
17 was mentioned earlier. And Keyhole was a
18 company that developed a lot of the technology
19 that became Google Earth.

20 Q. Since introducing Google Earth in
21 2005, has Google offered other Google Earth
22 products?

23 A. Yes, we have. So the very first
24 version was for Windows computers. We then

1 introduced a version for MacIntosh computers, or
2 Lennox workstations, and then later mobile
3 devices like the Apple iPhone, iPad and Android
4 phones and tablets.

5 Q. What is Google Earth for Android
6 8?

7 A. Google Earth for Android is the
8 version of Google Earth for Android phone and
9 tablets, Version 8 is the most recent version
10 that we released.

11 Q. When did Google release Google
12 Earth for Android 8?

13 A. That was released in I believe
14 2013.

15 Q. Mr. Birch, we have had some
16 testimony --

17 A. I'm sorry, that was 2014.

18 Q. We have had some testimony about
19 another Google product called Globe. Could you
20 tell the jury what Globe is?

21 A. Sure. So Globe is an internal
22 code name that we use for the Earth like
23 features in Google Maps, what we call either
24 view.

1 Q. When did Google integrate from
2 Globe into Google Maps?

3 A. That was 2013.

4 Q. Mr. Birch, have you been involved
5 in all of the different versions of the accused
6 Google Earth products?

7 A. Yes, I have.

8 Q. We heard a little testimony
9 earlier about a company called Audi. Has Google
10 provided any of the Google Earth functionality
11 to Audi?

12 A. Yes, we have.

13 Q. Is it different from the other
14 Google Earth products?

15 A. Yes, it is. So the other Google
16 products are standalone applications. The
17 technology with Audi was a software component
18 that could be used as part of an application.
19 In this case Audi developed the application that
20 would run on what's called the head unit, the
21 components in the dash in the car, they would
22 develop the application and they would use the
23 software component that we provided to them.

24 Q. Mr. Birch, has Google Earth won

1 any awards or industry recognition?

2 A. Yes, we won many. We won a United
3 Nation's Environmental Program Award. We won a
4 MAC World Magazine Award. We also won a couple
5 of Webbys.

6 Q. What are Webbys?

7 A. So Webbys are an industry award.
8 They're kind of like the academy awards, but for
9 people in the web industry.

10 Q. Does Google have any patents
11 related to Google Earth?

12 A. Yes, we do.

13 Q. About how many?

14 A. We have about fifty.

15 Q. What do they cover?

16 A. They cover a wide range of
17 components of Google Earth, everything from how
18 do we do the rendering, and the core
19 implementation to user interface, to you know,
20 many different aspects. For example, I
21 mentioned a couple of ones that I did that were
22 related to the user interface on mobile devices.

23 Q. I want to switch gears a little
24 bit, Mr. Birch, and talk about how Google Earth

1 operates. What kinds of information does Google
2 use to present images of Google Earth or in
3 Google Earth?

4 A. Uh-huh. So we use a lot of
5 different imaginary data that primarily comes
6 from satellites and aerial acquisition, so
7 planes.

8 Q. How large is the total amount of
9 information that Google has collected for use in
10 Google Earth?

11 A. So it's -- it's massive. It's in
12 the order of petabytes. And just to put that in
13 perspective, you might have heard of megabytes
14 and then there's some discussion of gigabytes
15 which is a thousand times that, and then there's
16 terabytes, which is a thousand times that and
17 petabyte is a thousand times that. So it's a
18 really, really big number.

19 Q. How does Google organize all that
20 information that's used to present images in
21 Google Earth?

22 A. So what we do is we actually store
23 that, we kind of divide that up into a bunch of
24 images and then we store those images on our

1 servers.

2 Q. And how does Google know which or
3 how does Google Earth know which images to find?

4 A. So we actually create an index or
5 what we call a metadata tree. And that metadata
6 tree serves as sort of like a table of contents,
7 if you will, for where we can go and find all
8 these different images.

9 Q. Why is it called a tree?

10 A. It's called a tree because it's a
11 data structure type, so in computer engineering
12 there's this notion of a tree. You've heard
13 some of that earlier, so it's called a tree
14 because it has a root and it has branches and
15 then it has leaves, so it looks kind of like an
16 upside down tree.

17 Q. What kind of information is stored
18 in this metadata tree?

19 A. So the term meta means it's not
20 about data, it's information about the data not
21 the data itself. So we don't store the data or
22 the images in the metadata tree, we store
23 information, for example, where the image is
24 located.

1 Q. Have you prepared a graphic to
2 help explain the idea of the metadata tree to
3 the jury?

4 A. Yes, I have. So this is an
5 example of a tree and in this case it's what's
6 called a binary tree, where at the top we have a
7 node and then below that there are two children
8 and each of those have two children as you
9 continue down.

10 Q. What do the small circles in the
11 tree represent?

12 A. So the small circles, as I
13 mentioned, are nodes. And in the case of the
14 Google Earth metadata tree, as I mentioned those
15 nodes include information about images, so for
16 example, where those images are located in the
17 world and their existence.

18 Q. Now, there are lines drawn between
19 the different circles in this tree. How do you
20 describe the relationship between the different
21 circles?

22 A. Sure. So there's really a kind of
23 a family relationship. You know, we've made
24 some references to family trees before and in

1 computer engineering and in software engineering
2 we use that analogy, so if you go to the next
3 slide I can talk a little bit about that. This
4 pink node is one of the nodes and then go ahead
5 and go to the next slide. The purple nodes here
6 are the children of that node. The one above it
7 is the parent and you can image the light blue
8 ones are the grandchildren, so we use that
9 terminology to kind of reference the
10 relationship.

11 Q. In Google Earth, what is the
12 difference between the different levels in the
13 metadata tree?

14 A. So the different levels represent
15 different resolution imagery. So let's go back
16 to our pink node for a second. So the node --
17 the image referenced by the pink node is half of
18 the resolution of the two nodes that are purple.
19 And in addition, the area covered by the pink
20 node is equal to the area of both of the purple
21 nodes, so you can think of one purple node is
22 half of the area and the other purple node is
23 the other half. I mean, total area equals the
24 area covered by the pink node.

1 Q. And how does the, in this example,
2 how would the area of the light blue nodes at
3 the bottom, the four light blue nodes at the
4 bottom compare to the pink node?

5 A. So again, they would also
6 represent the same area, but would represent
7 quarters of that area instead of halves of that
8 area.

9 Q. Which version of the accused
10 Google Earth products use a metadata tree?

11 A. All of them.

12 Q. How do the -- how does the
13 metadata tree used in the accused Google Earth
14 products compare to the illustration of a tree
15 that you've shown to the jury today?

16 A. So this is a binary tree. And I
17 had really just done that for simplicity, but
18 it's a lot easier to look at. The Google Earth
19 products use quadtrees and octrees. So that
20 would be four- and eight-noded children.

21 Q. And have you brought an example of
22 an illustration of a quad tree?

23 A. Yeah, so if you go to the next
24 slide. So this is a quadtree, so it's similar,

1 but you can see it very quickly gets very
2 complicated because of the vast number of nodes,
3 because each level you now get four more
4 children and four more children after that. And
5 you can image what an octree would look like.
6 It would be impossible to see. That's the
7 reason I'm kind of simplifying it with a binary
8 tree.

9 Q. And how is an octree different
10 from your illustration of a quadtree?

11 A. As I mentioned, oct means eight,
12 so instead of four nodes there would be eight
13 children for any given node.

14 Q. Mr. Birch, in this example it
15 looks like you have four different levels of
16 nodes?

17 A. That is correct.

18 Q. How many different levels are
19 there in the metadata tree in the accused Google
20 Earth products?

21 A. We have up to about 25 different
22 levels.

23 Q. And in the accused Google Earth
24 products, what does the top most node in the

1 metadata tree represent?

2 A. So the top node is the whole
3 world.

4 Q. And what geographic area is
5 covered by the nodes at the very bottom of the
6 metadata tree in the accused Google Earth
7 products?

8 A. So in the areas with the highest
9 resolution imagery, the bottom nodes are quite
10 small. There may be only, you know, five or 10
11 feet on a side. So they're actually, you know,
12 quite small.

13 Q. In the accused Google Earth
14 products, where is the metadata tree stored?

15 A. So the metadata tree is actually
16 stored on our servers. And the reason is even
17 though it's just a metadata tree and doesn't
18 have much information stored in it, it's also
19 incredibly large. You can image if you tried to
20 extend eight nodes of this down 25 levels, it's
21 quite a big index, so we store all of that on
22 the server as well.

23 Q. If it's stored on the servers, how
24 do devices that have the accused Google Earth

1 products use the metadata tree?

2 A. So devices will actually request
3 the metadata tree in portions as needed. It
4 will basically request the portions of that
5 tree.

6 Q. Now, does the -- you mentioned
7 earlier that the metadata tree just contains
8 metadata?

9 A. That's correct.

10 Q. And that's separate from the
11 images?

12 A. Yes, that's correct.

13 Q. Where are the images that are used
14 by the Google Earth products stored?

15 A. So the images are stored on Google
16 servers.

17 Q. And what are those servers?

18 A. Those servers, you know, so
19 servers are computers that Google uses to offer
20 our services and there's a service that runs on
21 them that we call Keyhole, which is, you know,
22 named after the original company, and that
23 service is the one that actually provides this
24 data back to Earth clients.

1 Q. How does Google Earth use the
2 metadata tree to request information from the
3 servers?

4 A. So what we do is we do something
5 called traverse or we basically kind of walk our
6 way down the tree to, you know, we basically
7 visit each of these nodes to find out is this
8 relevant, right, and relevant is primarily
9 driven by whether it's in the view or not.
10 Right. So if we're here at, you know, the east
11 coast, we're not going to want data from Asia,
12 for example. So we use this tree to understand
13 what of this vast amount of imagery is actually
14 relevant for the current view.

15 Q. And what happens after traversing
16 or walking through the metadata tree?

17 A. So what happens after that is we,
18 we build a list of nodes that we're interested
19 in. So in the process of this traversal we're
20 making a list, almost like a shopping list.
21 Right. We want to make something which in this
22 case is a final image and we need the pieces to
23 make that and so traversing this tree is kind of
24 our way of building up the shopping list of

1 images that we will need.

2 Q. Have you brought an illustration
3 to help explain this process to the jury?

4 A. Yes, I have.

5 Q. Let's turn to that, please.

6 A. Great. So what we have here on
7 the left there is again an example of one of
8 these metadata trees and again it's a binary
9 tree for illustration, but in the actual
10 application it's a quad or an octree. And then
11 on the right we have an example of a user's
12 computer and you can kind of see the screen
13 there, and that's where we're going to be
14 drawing or rendering this final picture. And
15 then just a little bit of guidance here on the
16 colors. As I go through this animation, blue
17 will mean that we've traversed or, you know,
18 looked at one of these metadata nodes. Yellow
19 is that we've requested that node and then the
20 orange is that we have stored and rendered it.
21 And just to be clear, this is not the whole
22 tree, this is a portion of the tree. In this
23 case it's the portion of the tree that is in the
24 view. So you can image that outside of this is

1 a very vast amount of data that isn't relevant,
2 it would just be kind of confusing for this
3 diagram.

4 Q. So in the Google Earth products,
5 what is the first step?

6 A. Yeah, so let me start. I talked
7 about this notion of traversing, so if you can
8 go ahead and flip. You see this blue arrows and
9 this is the process of traversing. We go, we
10 follow this tree structure and we are visiting
11 each of the nodes that are in the view and for
12 each of those nodes, because they are in the
13 view, we add them to this list. But again, you
14 kind of think of it as a shopping list, okay?
15 These are the nodes that may be relevant for us
16 for this, at least the ones that are in this
17 current view.

18 Q. Does the list contain only nodes
19 that are in the field of view?

20 A. That's correct.

21 Q. And what happens after traversing
22 the metadata tree?

23 A. Yeah. So I'm going to mention
24 this before you start it. So keep your eye on

1 that list. So this list is in a particular
2 order. And it's what we call traversal order.
3 Just happens to be the order that we've gone
4 through and visited them. It's not the order
5 that we actually care about. Some of these
6 nodes are more important than other nodes, so
7 what we're going to do is we're going to shuffle
8 them around and re-prioritize them. Get the
9 next animation. Okay.

10 Q. Mr. Birch, why are some nodes more
11 important than other nodes?

12 A. That's a great question. So the
13 reality is that what we really want to do is we
14 have a task to do here, right, which is we're
15 trying to make an image for the users. And what
16 we want to do is we want to get to that answer
17 as quickly as possible. And what we want to do
18 is, you know, there's this notion of what is the
19 appropriate resolution, right, because this tree
20 could potentially extend much further down, but
21 we don't want all that data because it's not
22 really relevant. There's an appropriate
23 resolution for the given view, and so what we're
24 going to want to do is we want to get those

1 nodes first. So in this illustration you'll see
2 that the D level represent nodes that are at the
3 resolution that we care about or the appropriate
4 resolution for this particular view. And what
5 we do is we put those at the front of the list,
6 because those are most important and then we
7 start to add in some of these other lower ones
8 and kind of put them back towards the end of the
9 list.

10 Q. And what happens after the list
11 has been prioritized?

12 A. So then what we do, we finished
13 this whole traversal process, so we're done with
14 that. And we have our list. So now what we
15 have to do is we have to start fetching some of
16 this data or requesting this data. So go ahead
17 and get the next animation. And what we're
18 going to do is we do that by requesting over the
19 network. And I should describe a little bit of
20 how we do this.

21 So the traversing time here is
22 really, really fast, like less than a blink of
23 an eye. It's in milliseconds. The retrieving
24 of this data takes a long time. It might even

1 take several seconds. And in drawing of a
2 frame, that's a really long time, right, because
3 we have to go out and go onto the network and
4 there's a network request and it has to go to
5 the data center and all this stuff that happened
6 and maybe you're on a slow cell network, so that
7 can take a really long time relative to this
8 other process. So what we do is we have a bunch
9 of what we call workers, which are little
10 computers tasks that can go off and fetch data.
11 So it's kind of like if you have your shopping
12 list and you have a bunch of friends or so and
13 you give each of them one item and say hey, go
14 get butter and go get me some milk and whatever
15 else, right, and each one of those people or
16 those workers now go off and go fetch this data.
17 And there's only so many of those, but they can
18 be done in parallel with everything else. So
19 that's important thing to keep in mind. It
20 takes a long time, so we're going to get that
21 going. And now that happens, that just keeps
22 going while we continue with other things. So
23 in this illustration here we've gone in and we
24 fetched, you know, we have I think it looks like

1 about nine different workers in this case.

2 We've gone and fetched or requested those
3 different nodes.

4 Q. I'm sorry. I'll let you finish.

5 A. Okay. Great. And so then the
6 next thing that will happen is let's go ahead
7 and hit the next animation. So you notice that
8 B1 came back, right? Now, we didn't request B1
9 first. How could that have happened? And
10 again, because these tasks are all done in
11 parallel, we don't really have control of what
12 order they might come back in. So B1 might not
13 always come back first, but there's a question
14 of traffic, right, how much network traffic is
15 there, you know, some tasks may take longer than
16 others. So there's not necessarily a lot of
17 control about what order they may or may not
18 come back in. So in this case B1 comes back and
19 so we go ahead and take that and we draw that
20 and it's a little hard to see in this animation,
21 but the left-hand side of that screen is now a
22 little bit sharper than on the right, because
23 we've gotten some higher resolution data, but
24 only for half of the screen.

1 So what's going to happen next,
2 this is going to be a little confusing, so I'll
3 walk through it ahead of time, is that now a
4 bunch of of these other ones are going to start
5 coming back. When they come back we can
6 actually start requesting more because those
7 workers are now available like okay, here's your
8 data, great, I have something else for you to go
9 get. Get me this other piece of data. So go
10 ahead and hit the next animation. And what
11 you'll see is now we're requested some more
12 nodes and more nodes are starting to come back
13 and at the end now what we have is we've gotten
14 all of these D level nodes have returned back,
15 right? And if you look at the image on the
16 right, that is now the final image, right,
17 because that's the resolution that's appropriate
18 for this particular view. So now we're done.
19 And we actually have all of the data that we
20 need in order to create that image.

21 Q. Mr. Birch, in the approach that's
22 used by the accused Google Earth products, are
23 all of the nodes traversed before the first
24 images of the nodes are requested?

1 A. That's correct, so we actually do
2 the complete traversal first, and then we start
3 to do requests.

4 Q. And in the approach used by the
5 Google Earth products, are all of the traversed
6 nodes requested before drawing the final scene?

7 A. Are all the traversed nodes
8 requested? No. In fact, as you can see in this
9 example, we haven't requested all of the nodes
10 on this list, we've only requested a portion of
11 them.

12 Q. And Mr. Birch, in the approach
13 that's used by the accused Google Earth
14 products, are all of the traversed nodes fetched
15 before drawing the final scene?

16 A. Again, not necessarily. And in
17 fact, in this case, we haven't fetched all of
18 the nodes. We've only actually fetched a
19 portion of those nodes.

20 Q. Why does Google Earth not request
21 the image for each node that is traversed?

22 A. So as I mentioned earlier, what
23 we're really trying to do is what's important is
24 getting the final image to the user as quickly

1 as possible, right? And we want it to feel
2 fast. And so we don't want to mess around doing
3 things that don't help us achieve that goal.
4 And so to do that we're going to prioritize, you
5 know, by re-prioritizing the nodes we get to
6 that answer sooner.

7 Q. In the approach that's used by the
8 accused Google Earth products, can some child
9 nodes be requested before the parent node is
10 requested?

11 A. Yes, they can.

12 Q. And in the approach used by the
13 accused Google Earth products, can some child
14 nodes be displayed before it's parent is
15 requested?

16 A. Yes, absolutely. You can base --
17 again, because of this process where we're
18 potentially or we're fetching the child nodes
19 ahead of other nodes, then they can potentially
20 be displayed before they are fetched -- before
21 the parent would be fetched.

22 Q. And in the approach used by the
23 accused Google Earth products, are all of the
24 requested nodes, do they have to be returned

1 before drawing the final scene?

2 A. No, they do not.

3 Q. So are all of the requested nodes
4 drawn in the final scene?

5 A. No. They are not. And one of the
6 ways to think about that is if we have all of
7 the children nodes for the view, there's no
8 reason to draw the parent, because the parent is
9 blurrier, right? So we don't want to create a
10 blurry image for people because that's not as
11 nice as a sharp image. And if we've already
12 gotten back these higher resolution children,
13 then we're just going to go ahead and draw those
14 and we don't even bother drawing the courser
15 parent.

16 Q. Is the approach that you described
17 used in all versions of the accused Google Earth
18 products?

19 A. Yes, it is.

20 Q. And have all versions of Google
21 Earth used this approach since it was released
22 in 2005?

23 A. Yes, they have.

24 And actually, I would just like to

1 make one more point on this before we move to.
2 I talk about this idea of the importance of
3 getting to an image as quick as possible. You
4 know, that's really important to us. And we
5 actually have a metric we use, we call it scene
6 resolution time. It's something that we measure
7 and keep track of and monitor over time because
8 we want to be fast, and we want to get an image
9 as quickly as possible.

10 And there is many different ways
11 that we might do this, but the reason we do it
12 this way is because this notion of scene
13 resolution time or getting to the final image as
14 quickly as possible is so important to us.

15 Q. Mr. Birch, are there tradeoffs to
16 using this approach?

17 A. There are. So the benefits you
18 have are you can get to this final image sooner.
19 One of the tradeoffs is that you are loading
20 potentially high resolution data ahead of lower
21 resolution data and there can be some
22 discontinuities in the data, you can have some
23 low resolution, for example we saw half of the
24 screen sharp and the other half blurry. It's

1 visually pleasant to have the whole imaging from
2 blurry to fine, but that's also slow. So we
3 kind of made a choice how we implemented it,
4 it's more important for us to get to the final
5 image sooner rather than creating this kind of
6 smooth blurry or coarse to fine transition
7 across the whole image.

8 Q. Mr. Birch, I'm going to have to
9 switch gears a little bit and talk about
10 financial information related to Google Earth.

11 A. Okay.

12 Q. Are you familiar with the finances
13 and financial records related to Google Earth?

14 A. Yes, I am.

15 Q. And how did you become familiar
16 with those records?

17 A. Well, as product manager for
18 Google Earth that was my responsibility. I was
19 responsible for all the aspects of the Google
20 Earth product family.

21 Q. What fees did Google charge in the
22 past for Google Earth?

23 A. So in the past we have had a few
24 different licensing fees for Google Earth. So

1 one would be we mentioned Google Earth Pro as
2 one product. So that was one way we would, you
3 know, charge for the product. We have another
4 product called Google Earth Plus which was
5 available for a short period of time which is
6 much less expensive version and we also had
7 Google Earth Enterprise which was part of a
8 package of different products and services we
9 sold.

10 Q. Does Google currently collect any
11 revenue related to Google Earth?

12 A. Currently we don't. I think there
13 may be some residual revenue from some older
14 deals that we have done, but we aren't selling
15 any of the products today.

16 Q. When you first joined Google, what
17 was the plan for making money from Google Earth?

18 A. Well, I think when we first joined
19 the plan was -- you know, it's kind of
20 interesting, actually, because my first question
21 to my boss, who is John Hanke who you saw on
22 video testimony earlier, my first question when
23 I joined was, you know, who owns the business
24 model and the P&L in this product because I was

1 interested in understanding that. His answer
2 was well, just go get users, really focus on
3 getting users.

4 I think there was really a lot of
5 drive towards making happy users and delighting
6 them. We obviously had the Enterprise revenue
7 plan and that was something that we already had
8 some history with. And we also had some plans
9 for doing advertising revenue in the product.

10 Q. Does Google currently include ads
11 in any of the accused Google Earth products?

12 A. No, we do not.

13 Q. How successful was the effort to
14 monetize Google Earth by using ads?

15 A. It was not successful.

16 Q. Was that related to the decision
17 not to include ads?

18 A. Yeah, exactly. I mean, the amount
19 of revenue that we got from putting ads in the
20 product just really didn't justify the effort,
21 and, you know, there is always issues around
22 user experience. If you're going to show ads in
23 the product, you want to make sure it didn't
24 detract from the experience. The revenue didn't

1 justify doing that so they were just pulled out.

2 Q. Why wasn't Google successful in
3 monetizing Earth through advertising?

4 A. Well, it's important to think
5 about, you know, there is this idea that you get
6 users and with a lot of users you can generate
7 revenues through ads. That's what we did with
8 Google Search. The problem is that Google Earth
9 users are not the same as Google Search users.
10 You may go to Google Search because you're
11 interesting in buying a television. Maybe
12 you're trying to plan a wedding. There are all
13 sorts of thing that we learn about a user's
14 intent and it's a really great place to show
15 ads.

16 People in Google Earth you don't
17 go to Google Earth to buy a new TV. You go
18 there to kind of browse around the world and
19 explore, even though we have a tremendous amount
20 of usage, and these incredibly long session
21 lengths, the number of minutes people spend on
22 the product was just massive, but nobody clicks
23 on ads in Earth because they're really not
24 relevant. And the user doesn't have some intent

1 where they're looking for something, it's just a
2 browse experience.

3 Q. Is one of the metrics that Google
4 tracks session time?

5 A. Yes, it is.

6 Q. What does the session time reflect
7 about users of Google Earth?

8 A. Yes. So the session time is how
9 long does a particular session last. You know,
10 if you start using Earth and use it for a minute
11 or do you use it for five minutes or do you use
12 it for an hour. And the numbers that we had,
13 for example, the desktop products were close to
14 twenty minutes, the mobile products were around
15 seven minutes. It really shows a level of, you
16 know, engagement with the product, because
17 people would stay in the product for quite a
18 long time.

19 Q. How does that relate to Google's
20 ability to monetize Google Earth through ads?

21 A. As I mentioned earlier, you know,
22 we had a lot of user time in this product. But
23 the problem was it wasn't a situation where
24 people really had an intent to do something or

1 to buy a product or do some other thing where an
2 ad was really going to be an effective thing to
3 show the users.

4 Q. During the time that Google Earth
5 included ads, did Google keep track of how much
6 it charged for those ads?

7 A. Yes, we did.

8 Q. What does the amount that Google
9 was able to charge for ads in Google Earth
10 reflect about Google Earth users?

11 A. Again, the amount of money we got
12 from Google Earth users was very low relative to
13 other products.

14 And one way to think of this is
15 that anyone can go and create a web page and put
16 Google ads on it, but not all web pages are
17 created equal. If you have a web page about
18 selling shoes, then maybe you're going to be
19 able to sell ads related to shoes on that page.
20 If you have one about your pet cat, probably not
21 a great opportunity. So those have different
22 monetization opportunities.

23 There is an notion called RPM
24 which is how much money per thousand

1 impressions. I think you heard that earlier.
2 The RPM numbers in Earth were really low, and
3 you know, probably twenty times or more less
4 than on the property like Google.com.

5 Q. In what group is Google Earth now?

6 A. So Google Earth -- so what
7 happened was, you know, in addition to turning
8 off advertising and stop selling the product,
9 there really wasn't any active development on
10 Google Earth. More recently we decided to move
11 it into a group called Geo For Good, which is
12 our philanthropic arm of Geo. There is a lot of
13 good things that that group does and Earth meet
14 the needs of having a positive impact on the
15 world and now it's part of that organization.

16 Q. What does Geo For Good do?

17 A. Geo For Good is really an
18 organization, as I mentioned, to help do good in
19 the world. We have initiatives. Something
20 called Global Fishing Watch, for example, which
21 is a project we did in collaboration with some
22 nonprofits to monitor fishing activity and to
23 look for illegal fishing so that we could really
24 start to address when there was illegal

1 depletion of fishing stocks because that's a big
2 global problem that we all have.

3 There is an outreach team that
4 works on working with nonprofits and other
5 organizations. And then there is my current
6 product which is Google Earth Engine which is a
7 tool for scientists and researchers to monitor
8 things like deforestation, drought, public
9 health and other really big important issues.

10 Q. Historically how did Google obtain
11 revenue from Google Earth?

12 A. Historically there were these two
13 different methods. There was licensing revenue
14 and advertising revenue.

15 Q. Let's take them one at a time.
16 How did Google keep track of its licensing
17 revenue from Google Earth?

18 A. So licensing revenue was kept,
19 recorded in a system called Hyperion, which is
20 our finance system.

21 Q. Mr. Ang, could you please put up
22 on the screen Defendant's Exhibit 1114. This is
23 very, very tiny type on it, so we're going to
24 try to below it up.

1 What is Defendant's Exhibit 1114?

2 A. So this is an output from this
3 Hyperion system that I mentioned earlier.

4 Q. Let's talk, make sure we
5 understand what some of these columns are. The
6 first two have pretty recognizable name, year
7 and month. The next two say D08 Earth on
8 Premise and D08 Keyhole?

9 A. That's correct.

10 Q. What does D08 refer to?

11 A. This is just an internal code that
12 the finance team uses to represent Earth
13 licensing revenue.

14 Q. What is the difference between
15 these two columns?

16 A. It's really just a renaming, for
17 whatever reasons the finance team changed it
18 from Keyhole to Earth on premise at some point,
19 there is no overlap between them, it's just a
20 renaming.

21 Q. The first row, 2005, month of 7.
22 That's July. Why does this start in July of
23 2007?

24 A. That's the first time that we

1 received or booked revenue for the Earth, you
2 know, the first time we got Earth licensing
3 revenue.

4 Q. If we could move over to the right
5 on the document and look at the remaining
6 columns, there is three of them there. They all
7 start with the code D53, and they all have the
8 same Earth Builder, Googling Maps Engine and 14B
9 Maps Engine. What do those columns refer to?

10 A. All of those columns refer to a
11 different product that we called Maps Engine.

12 Q. What is the code D53?

13 A. So, again, D53 is really just an
14 internal finance team code that references this
15 Maps Engine product.

16 Q. Do any of those columns relate to
17 Google Earth?

18 A. No, they do not, they relate to
19 this Maps Engine product.

20 Q. Mr. Birch, have you created a
21 summary of Google's licensing revenue from
22 Google Earth?

23 A. Yes, I have.

24 Q. Is this a copy, is this that

1 summary?

2 A. Yes, this is a summary.

3 Q. What is the total amount of
4 licensing revenue that Google has received from
5 licensing Google Earth from July of 2005 through
6 the end of 2014?

7 A. So, the amount total is
8 \$226,167,748.

9 Q. How did you create this summary?

10 A. This summary is basically just a
11 spreadsheet of the data that we saw in the
12 earlier exhibit. And I just summed up the total
13 numbers from each year, and in the right-hand
14 column and I totaled those at the bottom just so
15 it's easier to understand.

16 Q. Let's talk about the second
17 category of revenue that you mentioned,
18 advertising. How did Google obtain revenue from
19 advertising in Google Earth?

20 A. So what we did we would show
21 different ads within the Earth product. For
22 example, maybe if you did a search, or sometime
23 there are photos that will show up in the view,
24 you can click on that photo, you get a nice

1 photo of that location, we might show an ad
2 alongside that photo.

3 Q. How did Google keep track of the
4 revenue in Google Earth?

5 A. We kept track of that in system
6 called AdsNav.

7 Q. Can you put up Exhibit 1011. This
8 is really, really tiny type. So maybe we can
9 blow up the top left-hand corner.

10 What is this exhibit, Mr. Birch?

11 A. So, this is an output from this
12 AdsNav system that I mentioned earlier.

13 Q. This begins in April or month four
14 of 2007. Why does it begin at that time?

15 A. Because this is when we formally
16 launched ads in the Google Earth products.

17 Q. And I know they're very small, so
18 maybe we can go through them. You reviewed this
19 exhibit before today, haven't you, Mr. Birch?

20 A. Yes, I have.

21 Q. What do the different columns
22 represent?

23 A. So the different columns represent
24 different type of ad placement, so for each

1 placement you give it a different code or name
2 so you can track the performance of each.

3 So these different columns, you
4 see one here, Google Earth Panoramio. Panoramio
5 are these users photos that I mentioned earlier.
6 We have partner Google Earth Geo codes. A Geo
7 code is if you search for a place, maybe a city
8 name or a park name, that would be when we
9 showed an ad with those kind of results. There
10 is also some related to what we call local
11 search or for showing business information.

12 Q. Is each of the columns in this
13 exhibit, Defendant's 1011 related to advertising
14 at Google Earth?

15 A. Yes.

16 Q. Are these all of the different
17 categories of advertising in Google Earth?

18 A. Yes, these are all the Google
19 Earth advertising.

20 Q. Mr. Birch, have you created a
21 summary of the revenue that Google has received
22 from ads in Google Earth?

23 A. Yes, I have.

24 Q. Is this that summary?

1 A. Yes, it is.

2 Q. How did you create this?

3 A. Unfortunately the right-hand side
4 is getting a little cut off, but I'll help to
5 describe this. Again, I took that same
6 spreadsheet of the data or that output of the
7 AdsNav and put it in a spreadsheet and those
8 rows are added up for each year. At the very
9 bottom, you can't quite see it, but the bottom
10 number there is about \$5.6 million.

11 Q. Is that a little more than \$5.6
12 million the total amount of revenue that Google
13 got from advertising in Google Earth from the
14 beginning in April 2007 through the end of 2014?

15 A. Yes, it is. For the United
16 States.

17 Q. Is this the total amount of
18 advertising revenue that Google has gotten from
19 Google Earth?

20 A. Yes.

21 Q. Now, we heard some testimony
22 earlier about something called a prep cookie.
23 Do you recall that?

24 A. I do.

1 Q. What is a prep cookie?

2 A. So, maybe I should start with what
3 is a cookie. And unfortunately it's not one
4 that you can eat. A browser, a web browser has
5 a notion of putting a little file in your
6 computer and that little file will persist so
7 it's used to keep track of user activity over
8 time. So if you return to a web page, you can
9 learn something, keep information about a user.

10 The prep cookie is a cookie that
11 Google uses to keep track of Google users so
12 that we know when they return to a site or which
13 Google properties they may visit.

14 Q. Can you bring up Plaintiff's
15 Exhibit 40. Maybe you can blow up the top part,
16 the title, so it's a little bit easier to see.
17 This was used as an exhibit earlier in the
18 trial, Mr. Birch.

19 What is this exhibit?

20 A. So this exhibit is a proposal from
21 an engineer on the Earth team or related to the
22 Earth team named Olivia Bailey. And what this
23 is is a proposal for the use of, basically
24 allowing Google Earth to write to this prep

1 cookie so that we would know about users of
2 Google Earth in other products.

3 Q. Was this proposal ever
4 implemented?

5 A. No, it was not.

6 Q. Mr. Birch, one last topic. Are
7 you familiar with the concept of derived or
8 imputed revenues?

9 A. Yes, I am.

10 Q. What does derived imputed revenues
11 mean?

12 A. So an imputed revenue is basically
13 revenue received for -- usually for your own
14 services that you might have purchased outside
15 elsewhere, but you're using internally. So it's
16 really just an accounting term for sort of this
17 additional revenue. In the context of the Geo
18 organization it meant revenues that might come
19 into Google, but not directly to the Geo
20 organization.

21 Q. Has Google ever identify any
22 categories of derived or imputed revenues
23 associated with Google Earth?

24 A. Yes.

1 Q. Which ones?

2 A. There is one. And what this is,
3 it's called a client referral fee. So it's
4 basically if someone installs Google Earth on
5 your desktop, you'll notice that you are
6 basically downloading a program. At that time
7 we offer another Google product called Google
8 Chrome. And if the user chooses to install
9 that, they might get both Google Earth and
10 Google Chrome.

11 This referral fee is an imaginary
12 payment from the Chrome team to pay for the
13 installation of Chrome, because they're
14 basically paying for more users and so this sort
15 of additional payment is to the Geo group for
16 doing that.

17 Q. Does Google receive, actually
18 receive any revenue from this referral fee?

19 A. No, we do not.

20 Q. So how does it benefit the Geo
21 group or Google?

22 A. So the way it benefits the Geo
23 group is it's a way of showing value that the
24 Geo group and the Geo products, specifically in

1 this case, Google Earth.

2 Q. Did Google ever identify any other
3 categories of derived or imputed revenue
4 connected to Google Earth?

5 A. No, with the exception of I
6 mentioned Chrome, there was also a product
7 called Toolbar where it was a simple idea where
8 it would be an installation for a product.
9 Those two products were the only imputed revenue
10 related to Google Earth.

11 MR. SNYDER: Pass the witness.

12 CROSS-EXAMINATION.

13 BY MS. ALFARO:

14 Q. Good morning, Mr. Birch.

15 A. Good afternoon.

16 Q. You went through some slide
17 animations with your counsel this morning to
18 explain how Google Earth works; is that correct?

19 A. That is correct.

20 Q. And you referred to them as
21 metadata trees, I believe?

22 A. A metadata tree, that was part of
23 the demonstration, yes.

24 Q. You never used these particular

1 animations to explain Google Earth to others at
2 Google, have you?

3 A. No, I have not.

4 Q. You have never used them with
5 Google business partners?

6 A. No, I have not.

7 Q. Or with Google customers?

8 A. No, I have not.

9 Q. In fact, nobody at Google has ever
10 used those particular animations for that
11 purpose?

12 A. That's correct, these animations
13 were made for this specific presentation.

14 Q. They were made for this trial,
15 that's right?

16 A. That's correct.

17 Q. And these animations are not
18 Google documents, are they?

19 A. I mean, I helped make them. I
20 don't know why that wouldn't be considered a
21 Google document.

22 Q. There are plenty of Google
23 documents that were in this case that describe
24 how Google Earth operates; is that right?

1 A. Yes.

2 Q. For instance, the source code?

3 A. That's correct.

4 Q. Mr. Birch, you joined Google in
5 May of 2006; is that right?

6 A. That's correct.

7 Q. And you testified that Google
8 Earth was released in 2005?

9 A. That's correct.

10 Q. Which is before you joined the
11 company?

12 A. Yes.

13 Q. You would agree with me that the
14 operation of Google Earth is described in the
15 Google Earth source code; right?

16 A. The source code is the
17 implementation. I wouldn't say it describes it.
18 It's basically the embodiment of it.

19 Q. If someone wanted to know how
20 Google Earth works, the source code would
21 probably be a good place to look; is that right?

22 A. Obviously challenging, but it
23 would be the authoritative source.

24 Q. You have been in the courtroom

1 throughout this whole trial as Google's
2 corporate rep?

3 A. Yes, I was.

4 Q. You were here when Dr. Castleman
5 testified?

6 A. Yes, I was.

7 Q. You heard Dr. Castleman yesterday
8 discuss the source code for Google Earth; right?

9 A. Yes I did.

10 Q. And you didn't write any of the
11 source code for Google Earth, did you?

12 A. No, I didn't. I've already
13 checked in a couple configure files, but I
14 didn't write any of the source code.

15 Q. And Google did not designate you
16 as an expert in this case, did they?

17 A. No.

18 Q. You didn't submit an expert
19 report?

20 A. No, I did not.

21 Q. And you're not an expert witness?

22 A. That is correct.

23 Q. Mr. Birch, Google tracks an
24 activation metric for Google Earth, correct?

1 A. That is correct.

2 Q. And they track a daily upgrade
3 metric?

4 A. Yes.

5 Q. And a daily session metric?

6 A. Yes.

7 Q. And tracks session length?

8 A. Yes.

9 Q. For Google Earth. And I believe
10 you mentioned earlier in your testimony that the
11 session length is incredibly long for most of
12 these?

13 A. Yes, it's a long number relative
14 to other products.

15 Q. Right. And you'd agree with me
16 that Google is interested in how often Google
17 Earth is used; is that right?

18 A. Yes, that's correct.

19 Q. And you'd also agree that Google
20 is interested in how many people use Google
21 Earth, right?

22 A. Yes.

23 Q. And Google uses all of these
24 metrics that we've talked about as a measure of

1 Google Earth's success; is that right?

2 A. You could say that, yes, by people
3 using our product, that is success to us.

4 Q. And as early as 2006, you already
5 considered Google Earth to be a successful
6 product; is that right?

7 A. That's correct.

8 Q. Mr. Birch, you'd agree with me
9 that there is overall value in people liking
10 Google as a company; is that right?

11 A. Yes.

12 Q. And that's the case even for
13 products that don't have immediate revenue
14 goals; is that right?

15 A. Yeah, every product wants to make
16 products that delight users and make people
17 think good about Google.

18 MS. ALFARO: No further questions.

19 BY MR. SNYDER:

20 Q. Mr. Birch, why aren't you the
21 author of any of the Google Earth source code?

22 A. Well, I'm an engineer, but I'm
23 also -- we have some of the brightest engineers
24 in the industry and they are the people whose

1 job it is to really write the code.

2 Q. Are you familiar with the Google
3 Earth source code?

4 A. Oh, absolutely.

5 Q. Is the illustration that you gave
6 to the jury of how Google Earth works consistent
7 with the source code for the products?

8 A. Absolutely.

9 Q. And why did you help prepare that
10 presentation?

11 A. Well, I think all the stuff is
12 pretty complicated. And I think my main goal is
13 to really is how can I distill down the essence
14 of how this product works in a way that is easy
15 to understand. I mean obviously it's a
16 simplification and there's a lot of other detail
17 and I mean the source code for this product is
18 probably hundreds, if not thousands of files and
19 thousands, tens of thousands of lines of code.
20 Right? It would be a huge volume to try to go
21 through that. No one can go through all that,
22 so my real goal is how to distill that down into
23 something that's easy to understand.

24 Q. And is your illustration

1 consistent with the way that the Google Earth
2 products actually operate?

3 A. Yes, it is.

4 MR. SNYDER: No more question.

5 MS. ALFARO: No more questions,
6 Your Honor.

7 THE COURT: Okay. Thank you. So
8 now let's see if the jury has any questions,
9 please.

10 THE COURT: The jury has two
11 questions, so if counsel could approach the
12 bench for me.

13 (Side bar discussion.)

14 THE COURT: One question is when
15 did you or your team come up with the metadata
16 tree system to show it the way you currently do?
17 And the other question is what years did Mr.
18 Birch work at SGI and in Microsoft. Any
19 objection to that?

20 MR. SNYDER: No objections.

21 MR. PARTRIDGE: No objections,
22 Your Honor.

23 THE COURT: Okay.

24 (End side bar discussion.)

1 THE COURT: Mr. Birch, have a
2 little bit of unusual procedure here in that we
3 let the jury ask questions and the jury has a
4 couple of questions. The first is when did you
5 or your team come up with the metadata tree
6 system to show data the way you currently do?

7 THE WITNESS: Sure. So the idea
8 of the metadata tree really existed even prior
9 to the acquisition. So this is something that
10 was part of the Keyhole EarthViewer was the name
11 of it, product. In fact, the idea of a metadata
12 tree to store information like this is a very
13 old idea in programming and computer graphics,
14 so that the idea existed from the very beginning
15 of Google Earth and prior.

16 THE COURT: Okay. And two other
17 questions. What years did you work at SGI?

18 THE WITNESS: So I was at SGI from
19 89 to 1999, so also 10 years.

20 THE COURT: And when did you work
21 at Microsoft?

22 THE WITNESS: I was at Microsoft
23 from 2002 or 3 until 2006.

24 THE COURT: Okay. Thank you. And

1 Mr. Birch is excused at that point. Is he
2 subject to recall?

3 MR. HAWES: No, Your Honor, he's
4 not.

5 THE COURT: No. Okay. Thank you,
6 Mr. Birch.

7 MR. SNYDER: Your Honor,
8 Defendants move into evidence Defendant's
9 exhibit 1114.

10 MS. ALFARO: No objection, Your
11 Honor.

12 THE COURT: That's admitted.

13 MR. SNYDER: Your Honor, Defendant
14 Google calls as it's next witness, Mr. Michael
15 Jones. He was the CTO and chief technologist
16 for Google Earth at Google. He's going to
17 testify about the history and development of
18 Google Earth and he's also going to testify
19 about his interactions with ACI. And his
20 examination will be presented by Ms. Simmons.

21 MICHAEL T. JONES,
22 the deponent herein, having first
23 been duly sworn on oath, was
24 examined and testified as follows:

1 BY MS. SIMMONS:

2 Q. Good afternoon, Mr. Jones.

3 A. Good afternoon.

4 Q. Again, you know who I am and I
5 think I've already introduced myself, but I'm
6 Luann Simmons and I'm with the Google team. Mr.
7 Jones, what do you currently do for a living?

8 A. I'm the Chief Executive Officer of
9 Wearality Corporation.

10 Q. What does Wearality Corporation
11 do?

12 A. It's a spinoff from Lockheed
13 Martin, we make the world's most advanced lenses
14 for virtual reality and augmented reality.

15 Q. What would lenses like that be
16 used for?

17 A. They're used to make headsets that
18 sort of cleverly fill your entire vision with
19 computer-generated pictures, so that wherever
20 you look, everything you can see is real. It
21 helps people understand to do surgeries and
22 flight simulation and games, but also to
23 understand the world around them.

24 Q. How long have you been with

1 Wearality?

2 A. A little over a year, about a year
3 and a month.

4 Q. Where did you work before
5 Wearality?

6 A. I worked at Google.

7 Q. What did you do at Google?

8 A. I was the Chief Technology
9 Advocate of Google.

10 Q. What does that mean?

11 A. Well, I worked for Eric Schmidt.
12 I was basically the technical ambassador of
13 Google. I was the person that went around the
14 world to explain to heads of state or
15 legislators how Google worked, how technologies
16 at Google worked and worked with them to find
17 ways to solve problems.

18 Q. What other roles did you have at
19 Google during your time there?

20 A. Well, I was the Chief Technologist
21 or CTO basically of the Google Earth Maps and
22 Local Search efforts.

23 Q. When did you first join Google?

24 A. 2004.

1 Q. Under what circumstances?

2 A. A merger, an acquisition.

3 Q. Acquisition of what?

4 A. Oh, a company called Keyhole.

5 Q. What was Keyhole?

6 A. Keyhole was a service company, it
7 provided both software and services to let
8 people fly around the earth and explore it
9 fluidly.

10 Q. Did Keyhole make any products?

11 A. Yes. We had several products.
12 One was called the Keyhole EarthViewer. It's a
13 program you run on a PC. And we had a Keyhole
14 server, which was the server that sent the
15 pictures to the EarthViewer. And there was a
16 third product called Keyhole Fusion that
17 essentially kind of processed the picture so the
18 server could distribute them to the clients.

19 Q. So the EarthViewer was the client
20 product. What happened to Keyhole's EarthViewer
21 after the acquisition?

22 A. Oh, it was refined a little bit
23 and then shipped as Google Earth.

24 Q. And we're going to talk more about

1 Keyhole and Google Earth. But first, Mr. Jones
2 are you being compensated by Google or anyone
3 associated with Google for your testimony here
4 today?

5 A. No.

6 Q. And since you left Google last
7 year in 2015. Have you worked for Google as a
8 consultant or a contractor or otherwise received
9 any salary from Google?

10 A. No.

11 Q. Do you currently own any stock in
12 Google?

13 A. No.

14 Q. So why are you here testifying
15 today?

16 A. Well, this is a -- basically I
17 feel like Google Earth is my baby and I want to
18 make sure the truth about everything about this
19 case comes out.

20 Q. What do you mean by that?

21 A. Well, I've been in this field for
22 35 years and I don't like the idea of redefining
23 the start of it as 10 or 15 years ago. That
24 concerns me greatly.

1 Q. Let's talk about your background a
2 little bit more. How long have you been
3 working -- 35 years, is that right? How long
4 have you been working with earth visualization?

5 A. I started in 1981 with a company
6 called Geo Based Systems building software to
7 render the earth and buildings on it so people
8 could make movies and explore things, see
9 construction projects before they were finished
10 and present that to planning commissions and
11 board of directors and things, so that was 1981.

12 Q. And you said that was Geo-based
13 Systems?

14 A. Geo-based Systems, yes.

15 Q. What did you do after working with
16 Geo-based Systems?

17 A. Well, I went to a company called
18 Star Technologies, Graphicon, it's a division of
19 -- a spinoff from General Electric. It was a
20 flight simulation company.

21 Q. Does flight simulation have
22 anything to do with earth visualization?

23 A. Certainly does. That's why they
24 hired me.

1 Q. How so?

2 A. Well, when you -- if you learn to
3 fly an airplane, part of it is taking off and
4 part of it is landing, but the bulk of the time
5 is between one airport and the next airport
6 flying over the earth, so you look out the
7 window of the simulator and you see rivers and
8 streams and mountains and things, so that's --
9 being able to constantly stream that to pilots
10 so it looks real is a fundamental requirement of
11 flight simulation.

12 Q. What did you do after your work
13 with Star Technologies?

14 A. Well, I was recruited by a company
15 called Silicon Graphics to come help them build
16 flight simulators that are their hardware.

17 Q. And Silicon Graphics is sometimes
18 also referred to, I think we've heard testimony
19 about it as SGI; is that right?

20 A. That's right, SGI.

21 Q. And so what did you specifically
22 do at SGI?

23 A. Well, I was an engineer on a
24 product called Performer that was basically take

1 the standard workstation and make it a flight
2 simulator. Then I became the manager of that
3 team, then I became the engineering director of
4 all the advanced graphic software at SGI,
5 everything else that was advanced graphic
6 software.

7 Q. Are you the named inventor on any
8 patents related to your work at SGI?

9 A. Yes, approximately 11 patents.

10 Q. Any of those stand out?

11 A. Well, there's one that's called
12 ClipMapping that I think is relevant to this and
13 I'm most proud of.

14 Q. Tell us about ClipMapping. What
15 is that?

16 A. Well, ClipMapping was a real
17 breakthrough in the way that computers could
18 represent imagery for flying over the earth so
19 that it was exactly perfect when you looked at
20 it in a simulator, every pixel was just perfect.
21 And before that it was very hard. ClipMapping
22 made it perfect. So that was a lot of work.
23 And it pretty much transformed the whole
24 industry of terrain visualization and flight

1 simulation and all kinds of military simulations
2 as well as allied industries of mission
3 rehearsal, mission training, sort of government
4 type work, military work.

5 Q. When did you come up with the idea
6 for ClipMapping?

7 A. Late 1993, early 1994. Took a
8 long time. It was a hardware, so it took a long
9 time to get it perfected.

10 Q. When you were at SGI, were you
11 aware of any other systems that existed so this
12 is in the time frame of the 1990's, any other
13 systems that existed for earth visualization?

14 A. Certainly. It was my job to know.

15 Q. What do you mean by that?

16 A. Well, as an engineering manager
17 and director, I was responsible not just
18 internally for making the products, but working
19 with customers to understand what didn't work or
20 maybe what should work better, what their goals
21 were and our customers, we had tens of thousands
22 of customers, but maybe the thousand I was
23 concerned about were the ones that built flight
24 simulators and systems for looking at the earth.

1 So the marines used it, Boeing used it, the
2 Coast Guard, the Navy, all these people as well
3 as, you know, non military applications, but I
4 worked with them to help solve those problems.
5 So I knew about companies like, well, like
6 Hughes Training, Boeing, Cambridge Research I
7 knew really, really intimately. Just many, many
8 companies.

9 Q. What about research projects
10 during this time frame. Were you aware of any
11 research projects in the 1990's relating to
12 earth visualization?

13 A. Oh, yes, there were academic
14 projects as well. And our company was the
15 center of computer graphics related, so
16 everybody used our products, so I knew about a
17 project at the Stanford Research Institute
18 called TerraVision.

19 Q. And Stanford Research Institute,
20 is that sometimes referred to as SRI?

21 A. Yes.

22 Q. What did you know about SRI's
23 research project?

24 A. Well, they had a system that --

1 well, they had a big program called Magic that
2 was going to show ways to use high speed
3 networking, but they had a product called
4 TerraVision that was a way of -- basically they
5 had this idea of not using like a normal URL or
6 web addresses for computers to say like ford.com
7 and they wanted instead to have latitude and
8 longitude markers, so that different companies
9 or countries or NGO's could publish little
10 tiles, little squares of imagery and have people
11 fly through all of that. And so it would be a
12 geographic world, basically a geographic web
13 that people could fly through. And that system
14 was prototyped at a trade show that I went to,
15 15,000 person show called SIGGRAPH.

16 Q. When was that?

17 A. That was 1995.

18 Q. Did the SRI system, to your
19 knowledge, where did that store the image data
20 for visualizing this earth image?

21 A. Oh, it stored on it remote servers
22 that cities and governments would publish.

23 Q. Were you aware of other earth
24 visualization systems in this time frame, the

1 '90s that stored image data on remote servers?

2 A. Certainly. Almost all of the
3 military ones did. It's just -- flight
4 simulation, usually we build a simulator and the
5 data would be on disk drives in the computer,
6 but for military mission applications at sea
7 like that aircraft carrier pilot training, what
8 they call mission rehearsal like we're going to
9 fly from the carrier, we're going to go to this
10 place, Kosovo, going to do this interdiction,
11 the data came from the National Geo Spacial
12 Agency through it's called national technical
13 means, satellites and airplanes. And they would
14 put that together at the NGA, the National Geo
15 Spacial Agency in D.C., but they have to get
16 that to the aircraft carrier, so they used
17 networking to get the data there and they flew
18 around data that was basically produced at the
19 NGA.

20 Q. What about increasing the
21 resolution of the displayed image so that you
22 could get to finer and finer details, how was
23 that handled, to your knowledge, by systems in
24 the 1990's?

1 A. I think it was handled in the '90s
2 the way it was handled in the '80s, '70s, ever
3 since. Basically you have an area of regard,
4 like a big wall, a ceiling, you dice it in
5 little squares and then the squares have
6 subsquares and little tiny squares there inside
7 the big squares and basically what happens is as
8 you moved around, the next big squares are broad
9 and then closer, the next little squares are
10 broad. This happens on a computer so it can
11 happen more finely then divided it in powers of
12 two instead of powers of a hundred. That's
13 called a quadtree and data stream as you fly
14 around.

15 Q. What about the user's experience
16 during this time frame. How did users
17 experience this image data that was provided by
18 these earth visualization systems in that time?

19 A. Well, it was just like you would
20 experience flying an airplane. You fly to the
21 mountain and got sharper and sharper the closer
22 you got to it. You look down 20,000 feet, you
23 see the sea you're going to land the airplane
24 in. The closer you got to it, you zoomed in and

1 finally you could see the runway and the stripes
2 and runway edge illumination system, reels,
3 everything that would be, you know, on a runway
4 or in an aircraft carrier. You'd see the
5 meatball, which is the optical landing system.
6 So it was just -- it's axiomatic, the flight
7 simulation is just smoothly zooming in to see
8 the world.

9 Q. When did you leave SGI?

10 A. 1999.

11 Q. What did you do after leaving SGI?

12 A. Well, I ambitiously started a
13 little company.

14 Q. What was that company?

15 A. It ended up being called Intrinsic
16 Graphics.

17 Q. What did you work on at Intrinsic
18 Graphics?

19 A. Our vision was to build software
20 for game, for Game Cube, xBox and PlayStation
21 II, but -- which we did, but we needed to get a
22 demo to get funding. We got a contract with a
23 company called Cambridge Research that I worked
24 with at SGI. And they wanted us to build a

1 personal computer version of some software that
2 did what their big computer software could do.
3 And we thought since we had built all this
4 software at SGI we would be the perfect people
5 to figure that out.

6 Q. Did you create a demonstration?

7 A. We did.

8 Q. What was that called?

9 A. It was called Earth after the
10 Earth application in Neil Stephenson's science
11 fiction novel.

12 Q. Can you describe for the jury what
13 your Earth demonstration did?

14 A. It kind of took over the screen
15 like a video game and let you use a joystick or
16 a mouse or whatever to fly an airplane. You
17 pull back, zoom up, you could look around, but
18 you could inspect the data. It wasn't just
19 flying, you could kind of stop like a UFO and
20 you could look down because an airplane would
21 crash. A UFO you could stop, zoom in, zoom out,
22 move down, you could look around.

23 It didn't have any advanced
24 measuring tools, but it showed the complete

1 smooth imagery on a PC as opposed to a big
2 workstation because we used kind of a special PC
3 to do that.

4 Q. You mentioned that you had some
5 colleagues working with you. Where did you and
6 your colleagues work on this demonstration?

7 A. That was, three friends of mine
8 and I, we built that in the dining room of my
9 house.

10 Q. Why were you in the dining room of
11 your house?

12 A. Because my garage was filled with
13 boxes, so we couldn't really do the garage type
14 startup because my garage was too messy. But we
15 built that in my house.

16 Q. And why personally were you
17 interested in working on this Earth
18 demonstration?

19 A. Well, for me, I have been doing
20 this since 1981. Right? But it started when I
21 was a little boy. I was adopted and I didn't
22 know where I was from. And I got a present one
23 time for Christmas. It was a globe. And I
24 looked at that globe every night forever. And I

1 imaged maybe I was from here, maybe I was from
2 there. I studied the rivers, the borders,
3 country names, and I dreamed when I grew up, I
4 would be able -- I would go to those places when
5 I was big. I could go to those places and I
6 could see them.

7 And it turns out I grew up, I
8 couldn't fly around. It was a child's dream,
9 but I was a computer programmer, I can write a
10 program to fly around. That's always been a
11 fascination.

12 Q. How long did it take you and your
13 colleagues to create the Earth demonstration
14 program?

15 A. About three months.

16 Q. What computer did you use?

17 A. We used an Intergraph machine. It
18 was the only one -- in those days it was rare
19 for computers, personal computers to have
20 multiple like Intel processors inside them, so
21 they usually had one, but we needed multiple
22 PC's because we needed to write a parallel
23 program.

24 Q. Did you need multiple PCs?

1 A. No. It's a single PC, but inside
2 there is two computers. In my laptop now I have
3 got four computers, back then you had to get two
4 chips. Intergraph made machines that could do
5 that. And we did that because we needed to do
6 the data management and disc reading and the
7 texture image fetching and all that in parallel
8 with the drawing because we did it for flight
9 simulation, you had to have one processor
10 dedicated to drawing while other processors
11 could do data fetching and things like that.

12 Q. Is that how your Earth
13 demonstration program worked, it did two
14 different things at the same time?

15 A. It did. Cambridge was very
16 satisfied and so was the navy and so was the
17 three star general who approved it, it's how we
18 got paid.

19 Q. How did the Earth demonstration
20 program relate back to your work at SGI?

21 A. It was a natural continuation. At
22 SGI we built hardware and software. Here we
23 were just building software. We couldn't do it
24 the same way we did it at SGI. But we learned a

1 lot and we learned how to, like what the
2 problems were so we really could focus on how to
3 build that. So it was a continuation of that
4 years at SGI.

5 Q. How did your Earth demonstration
6 program organize the image data?

7 A. It used a data structure, a
8 computer system called Quadtree. I kind of
9 referred before taking a big thing dicing it
10 into pieces, parent, four children and each of
11 those has four children and four children and
12 four children.

13 Q. What did you do after developing
14 the Earth demonstration program?

15 A. Well, we started -- we took the
16 demo once we got paid by Cambridge, technically
17 by the navy, we used our money to give us three
18 or four months run way. We started going to
19 Silicon Valley venture capitalists starting with
20 the demo and saying look how smart we are, we
21 wrote this demo, you should give us money to
22 write this. It didn't really make sense because
23 it was a different thing. We found a CV who
24 funded us and we built a company.

1 Q. When you say funded us, who is us?

2 A. Well the four, the four guys.

3 Q. And what was the company that you
4 built with that funding?

5 A. It was called Intrinsic Graphix.

6 Q. What happened after you got the
7 funding and founded Intrinsic Graphics?

8 A. I had a little problem with that.
9 What happened was I had the money and I started
10 hiring people. I started hiring people to run
11 the company. I was CEO and we were building all
12 the software team we needed to build Intrinsic
13 Graphics software to work with Sony and
14 Microsoft and Nintendo. But the demo we built
15 to get funding from Cambridge, I kept working on
16 that.

17 At one point I had four or five
18 people working for me working on that demo. And
19 basically we had a pretty angry board meeting
20 one time where the board of directors, which was
21 new to me, have a board of directors, look
22 you're like a maniac. You have this little
23 company, only so much money, so much time and
24 you have all these people working on this demo

1 that has nothing to do with your company. Like
2 what is wrong with you? And they said you have
3 to shut that down.

4 And I basically, you know, I love
5 it, you know. And they said look, you have to
6 stop. And so I said well, what if I spin it
7 out? What if I take that, send it outside the
8 company, hire somebody to run it, and send it
9 away. They said okay. As long as you're not
10 part of it, that's fine, we don't want anything
11 to do with it, just get it out of the company.
12 I said okay. So that's what I did.

13 Q. So you spin out a new company?

14 A. Yes.

15 Q. What was that company called?

16 A. It's called Keyhole.

17 Q. What happened with the Earth demo?

18 A. That was -- that went with Keyhole
19 and all the technology went the Keyhole.

20 Q. Where are we up to now in the
21 timeline, when did you found Keyhole?

22 A. 2001.

23 Q. Why was it called Keyhole?

24 A. I was younger then, we were kind

1 of playful kids. And the -- since 1970's, you
2 know, the government has had a top secret
3 programs to do satellite recon over the former
4 Soviet Union, and those programs all fell under
5 the code word Keyhole. So we knew that, because
6 it had passed -- the people that were part of
7 that program couldn't say that word in public so
8 it seemed fun to us if we built spy technology
9 for regular people, instead of seeing where the
10 bombers are, you can see is the hotel really got
11 a beach view or not. It would be like a
12 people's keyhole, so we called it Keyhole.

13 It was pretty fun watching Colin
14 Powell and other people squirm when they
15 couldn't say the name of our company. It was
16 good to give them a business card and watch them
17 vibrate.

18 Q. What was your purpose in creating
19 Keyhole?

20 A. Just the same as building that
21 demo, just to find a way to get information
22 moving it forward, put it in the hands of other
23 people. It's great that it trains pilots, it's
24 great that it's been used to train astronauts of

1 NASA.

2 But really seven billion people
3 and as far as I'm concerned, the only thing
4 people have in common is they live on the same
5 planet. It doesn't matter where you're from,
6 your culture, we're all brothers and sisters in
7 that we live on the earth. It's our home.

8 I thought if we could see that,
9 people would understand, like those people over
10 there in this country we're going to bomb, they
11 have kids, too, and their kids play soccer like
12 our kids play soccer. There is a brotherhood of
13 man that maybe I could help the world if people
14 can embrace that and see for themselves. People
15 that travel have a broader world view. I
16 thought virtual travel people could be a little
17 kinder and nicer and really embrace each other.

18 Q. You testified earlier that Keyhole
19 offered a product called Earth Viewer; right?

20 A. That's true, yes.

21 Q. Was there a relationship between
22 Earth Viewer and Earth demo that you created a
23 little bit before?

24 A. It was just logical continuation.

1 It had more user interface features, more
2 buttons to push and things, but it was the same
3 technology.

4 Q. When did you first or when did
5 Keyhole first launch Earth Viewer?

6 A. That same year that was created
7 2001. I made sure they were -- I didn't spin
8 until I hired a CEO that I really, really,
9 really trusted until the product was ready to
10 go. When I spun them out they were ready to go
11 to market, but I ran out of money.

12 Q. How many Keyhole Earth Viewer
13 users did you have let's say at around the time
14 of the acquisition by Google in 2004?

15 A. About 50,000.

16 Q. Where were those users located?

17 A. They were all over the world.
18 Everybody is interested in seeing the earth.

19 Q. Where did Keyhole store the image
20 data that was used by those users?

21 A. We had the Keyhole server product
22 and we had that in Pala Alto, we had a server in
23 Pala Alto in the basement of a building near the
24 expressway, that's where all the data was

1 stored.

2 Q. Tell us about Keyhole customers
3 for Earth Viewer, who were your customers?

4 A. Well, mostly they were commercial
5 real estate people, so a big one was people that
6 looked for places to build Wal-Marts. People at
7 Wal-Mart they make a decision, big bosses there,
8 somewhere there and somebody is going to build a
9 Wal-Mart in Idaho, they look for good places
10 next to roads, the right kind of people and
11 population. They used to take pictures and send
12 boards back and now they can make markers on the
13 earth and people in Wal-Mart can fly around and
14 see where the choices were. Quality Homes was a
15 big customer. CBRE, Coldwell Banker, Richard
16 Ellis, they lease office space they would use to
17 that to take clients on virtual tours.

18 We had military customers, the
19 marine expedition units used it all the time.
20 Before we run up the shore and get shot at,
21 what's it looked like. We also had customers in
22 academia, intelligence community agency was a
23 customer, but the National Geospatial Agency.
24 But we had customers that were in the broadcast

1 industry.

2 Q. How did customers in the broadcast
3 industry use Earth Viewer?

4 A. Well, they were like the poster
5 child for what we were doing. CNN used it, and
6 they used it when they go to do the news. They
7 would show like they say now we are going to fly
8 into Tahrir Square. They would fly into Tahrir
9 Square. If you're not from Egypt you don't know
10 that it's right on the edge of the banks of the
11 Nile in Cairo. You wouldn't know that. It's
12 just a name. They would take you to places,
13 Central Park, wherever the place would be.

14 Q. Mr. Jones, do you have a video
15 that illustrates how CNN used Keyhole Earth
16 Viewer?

17 A. I do.

18 MS. SIMMONS: This is Defendant's
19 Exhibit 1095 and, Your Honor, there are no
20 objections pending to this exhibit. May we
21 publish it to the jury?

22 THE COURT: Yes.

23 MS. SIMMONS: We're going to put
24 the video up. Let's not start it yet.

1 BY MS. SIMMONS:

2 Q. Mr. Jones, we're going mute the
3 volume so that you can describe for the jury
4 what they're seeing as this video plays.

5 A. Okay. So somebody is going to
6 tell you about the palaces in Iraq on CNN. And
7 most of us aren't from Iraq, so we don't know.
8 We see Iraq up high, and the palaces are in
9 Baghdad. So they're flying to Bagdad so you can
10 know where Bagdad is. And then they say here
11 are the palaces right on the base of the river.
12 They go from palace to palace talking through
13 here is the palace, here is the dome, here is
14 the garden, here is the pools.

15 In this particular case I think
16 there was a military action and they were
17 showing the places where command and control
18 centers were bombed and where there were
19 targeted strikes. They were just discussing
20 what does it mean to understand where these
21 palaces are.

22 Q. I'm going to ask Mr. Ang if you
23 could stop it right before it ends. Maybe this
24 is a good point we could stop it right here.

1 There is text up in that upper
2 right-hand corner and it's kind of impossible to
3 see from here. Do you know what that text said?

4 A. I do.

5 Q. What does that say?

6 A. It says Earth Viewer.com.

7 Q. Why does it say that?

8 A. Well, that was the name of our
9 website, and it was part of the license we had
10 with CNN that they could use our product but
11 they had to put our website address up there.
12 We were a small company, we wanted to make sure
13 we got credit from the world for what we were
14 doing so people could contact us if they wanted
15 to do business with us.

16 Q. How long were you with Keyhole?

17 A. Well, I just joined -- I sold the
18 parent company and I joined Keyhole maybe for
19 six months, nine months, something like that.

20 Q. You were with Keyhole at the time
21 of the acquisition by Google in 2004?

22 A. Yes.

23 Q. What was your role with Keyhole at
24 that time?

1 A. I was the CTO.

2 Q. Were you involved in the Google
3 acquisition?

4 A. Yes.

5 Q. How did that acquisition arise?

6 A. Well, we were just closing what we
7 called series B financing. So this was series
8 A, which is the first funding and series B is
9 the second funding. If you're good you don't
10 need series C, it's how much runway you need to
11 takeoff. We haven't signed the papers yet. We
12 were a week away.

13 We got a call from a friend of
14 ours named Jeff Huber who works at Google who
15 said that later, the founders of Google are
16 customers of yours. We didn't know it, they fly
17 around all the time. In fact, they cause
18 problems at board meetings because they show it
19 all the time asking people what their addresses
20 are.

21 Apparently they were told if you
22 like it that much, you should buy it, this
23 person was calling us, Jeff was calling us to
24 say could you come over and meet with us. We

1 want to talk about buying your company. It was
2 kind of bad timing because we were right in the
3 last week of signing, all the paperwork was
4 done, all the legal expenses was done.

5 Q. Why did you decide to sell your
6 company to Google?

7 A. Several reasons. I mean Google
8 was -- but for me, personally I was on the board
9 and I had -- I had told them, you can't buy it,
10 actually, unless you make some promises. And
11 the promise I cared about was we're going to
12 need a lot of money to buy the data to make this
13 be something for the world. It seemed to me
14 like that was the way to fulfill my dream from
15 child.

16 Q. Did you think you could fulfill
17 that dream with Google?

18 A. Yes, I did.

19 Q. Did you become a Google employee
20 as part of the acquisition?

21 A. I did, every single Keyhole
22 employee became a Google employee. That was the
23 other condition, you can't buy the company
24 unless you take all the people. We built it,

1 you want it, take us, take the whole family.

2 Q. What happened with the Keyhole
3 Earth Viewer after Google acquired Keyhole?

4 A. We worked on it a little bit. It
5 was going to be at Google, and they had some
6 looking field style guidelines, we did some user
7 interface changes and a couple of substantive
8 changes and we launched that as a product called
9 Google Earth.

10 Q. Do you remember about when that
11 was that Google Earth launched?

12 A. That was 2005.

13 Q. When you joined Google in 2004,
14 did Google already have a search product?

15 A. Yes. In fact, it was known for
16 its search product.

17 Q. How did Google Earth fit in with
18 Google's other products such as its search
19 product?

20 A. Well, it didn't really fit in. I
21 mean, it fit in the company mission to organize
22 the world's information and make it universally
23 successful and useful, but it was the only thing
24 at Google that wasn't a web application. It was

1 a standalone. You had to download something to
2 install it. That was a problem.

3 Like sometimes you had a computer
4 like in a school, you can't install software,
5 it's managed by somebody. Google was concerned
6 about buying us. It wasn't a web software. But
7 we ran understood Google for a year-and-a-half
8 independently and we made it work and people
9 were willing to download an application. It was
10 separate, but at least it was philosophically
11 friendly to Google.

12 Q. After you started with Google, did
13 you hear from a company called Art+Com at some
14 point?

15 A. I did.

16 Q. When was that?

17 A. 2006.

18 Q. And was that the first time that
19 you had heard from Art+Com?

20 A. No, actually I had heard from them
21 once before.

22 Q. When was that?

23 A. When I was at Silicon Graphics,
24 that was 1995.

1 Q. What did you hear about or from
2 Art+Com back in your Silicon Graphics days?

3 A. They were customers of ours. Like
4 I said, we were the center of graphics hardware
5 at that time, there wasn't video and ATI, it was
6 just us. And they wrote to us and said they
7 were customers, they used the product that my
8 team built, it was called Iris Performer. They
9 had a demo they were going to be in California
10 showing it off and they wanted to come to
11 corporate headquarters and show it to their
12 customers and show it to us and would the
13 performer team come over and look at it.

14 Q. Where was this demo? This was at
15 the corporate headquarters, is that what you
16 said?

17 A. Our campus in Mountain View, but
18 it was actually in a particular place called the
19 corporate briefing center.

20 Q. What was the corporate briefing
21 center?

22 A. It was sort of like the test drive
23 facility, it was like the trial facility, it had
24 a big room, maybe twice the size of the

1 courtroom, and it had computers on the walls and
2 little pods out in the middle, kind of like
3 this, actually with tables here and there,
4 computers there. It was pretty big computers.
5 It wasn't like modern computers. And little
6 refrigerators everywhere. And they were going
7 to show their software, or computer there.

8 Q. Who could attend demonstrations in
9 SGI's corporate briefing center?

10 A. Pretty much anybody. We had
11 celebrities. We had President Clinton,
12 Vice-president Gore. We had Michael Jackson,
13 all kinds of people came there. It was anybody.
14 We had two or 300 people sometimes at one time
15 in the corporate center. It was kind of
16 crowded. School kids came sometimes in buses.
17 It was a public venue.

18 Q. Did you attend Art+Com's
19 demonstration at SGI?

20 A. We did. We went in the afternoon.
21 I got the whole team together. They were kind
22 of finishing things. I got them all together
23 and we marched across the parking lot.

24 Q. Why?

1 A. Well, we wanted to see what they
2 had done. They were our customers and they were
3 proud to show us their work. And it's always
4 exciting -- if you haven't worked in a factory,
5 you wouldn't know this, but you work in a
6 factory, you make things. But when you meet
7 customers, they use things. It's like you work
8 at a music factory, you make trumpets. Someone
9 comes and wants to play the trumpet for you, you
10 want to hear it because you're like I might have
11 hammered on that trumpet and hear good music, so
12 we were excited to see what they had done.

13 Q. What was your involvement in
14 settling up the Art+Com demonstration?

15 A. None. The corporate business
16 center machines were controlled by the briefing
17 center staff. There was a man I knew there
18 named Pat Lank. He was responsible for all the
19 machines and installations and setup and tear
20 down, cleaning. It was his thing.

21 Q. What did you see when you went to
22 see Art+Com demonstration?

23 A. Well, it was -- we came in the
24 door, so imagine walking the length of the

1 courtroom and this was at the far end in a
2 little cul-de-sac area. And from across the
3 room, I could see the ball, which in fact, it
4 looked just like that, maybe that's it, like
5 this, there is the ball. And I want to go touch
6 it now, actually, to be honest. It was
7 fantastic then and it is fantastic now.

8 There was a big ball and a
9 computer screen set up. And the idea was if you
10 move the ball, the picture would move. The
11 picture was like a globe. It was Universal
12 Studios, a picture up on the screen, but you
13 could move the ball and there was a cable
14 between the computer and the ball so you made
15 the picture move. And I thought that was really
16 clever.

17 It turns out that that's the
18 business they're in. They make like trade show
19 exhibits for worlds fairs and companies so
20 they're really good with mechanical devices. I
21 told them, that is fantastic.

22 Q. What documentation did you receive
23 at the demonstration about Art+Com demo?

24 A. Nothing.

1 Q. What about source code, did you
2 see any of the source code that related to the
3 software?

4 A. No. It was just a demo, it was
5 just watching it go.

6 Q. What did you think about the
7 demonstration?

8 A. Well, I liked the ball. And I
9 like the ball a lot, actually. But as far as
10 the actual computer part, I was not particularly
11 impressed with that part.

12 Q. Did you have any follow-up
13 communications with Art+Com after the demo at
14 SGI?

15 A. Not much. I mean, maybe like --
16 probably, you know, I like customers, I would
17 have said it's nice to see your demo. I really
18 like the ball and thanks for coming. Good luck.

19 Actually they wrote to me, they
20 wrote to me and they asked me, could we -- we
21 were about to do a new version of our software
22 Performer, and they said could we be on the beta
23 program for the new version of Performer. I
24 said sure.

1 Q. Anything else about their Earth
2 Visualization software, did you have any more
3 communications or any communications with
4 Art+Com about that?

5 A. No.

6 Q. What about then after SGI, you
7 went to Intrinsic Graphics. While you were at
8 Intrinsic Graphics, did you have any
9 communications with Art+Com?

10 A. No.

11 Q. I think Keyhole was next. Did you
12 have any communications with Art+Com while you
13 were at Keyhole?

14 A. No.

15 Q. You weren't ever contacted by
16 Art+Com during the time you were at Keyhole?

17 A. No.

18 Q. You were associated with Keyhole
19 during its existence; correct?

20 A. I was on the board of directors
21 the entire time. Even when I wasn't employed
22 there, I went there every day and talked to the
23 employees. I recommended employees that got
24 hired. I was part of the management team.

1 Q. So you didn't have communications
2 with Art+Com again until we're fast forwarding
3 to Google, so it wasn't until your time at
4 Google that you heard from Art+Com; right?

5 A. That's right, I remember those
6 people from way back when.

7 Q. And you may have already said
8 this, but when was that when you heard from them
9 while you were at Google?

10 A. 2006.

11 Q. What happened with respect to
12 Art+Com in 2006?

13 A. I received an e-mail.

14 Q. An e-mail from whom, do you
15 remember?

16 A. Pavel Mayer.

17 Q. What did Mr. Mayer say?

18 A. He wrote to me, congratulated me
19 on Google Earth and says looks like you're
20 making a good success there. People are
21 enjoying that here in Germany, too. He said you
22 may not know this, but we have a patent in that
23 space, we're not using it, probably not going to
24 use it, but maybe Google would like to buy it.

1 Q. Did he attach the patent to his
2 e-mail?

3 A. He did. He attached the full
4 patent specification to the e-mail.

5 Q. Before you got that e-mail from
6 Mr. Mayer in 2006, were you aware of Art+Com
7 having a patent?

8 A. No.

9 Q. Were aware of anyone at Google who
10 knew that Art+Com had a patent?

11 A. No. I can't imagine, no,
12 certainly not.

13 Q. Did you take a look at the patent?

14 A. I did.

15 Q. And what did you think about it?

16 A. Well, my job as a technical
17 engineer on the Geo team is to do that exact
18 thing, to look at technologies that come across
19 the thresholds and see if they make sense for
20 us.

21 I studied it. I'm not a patent
22 examiner or patent court. I just looked at it
23 as an engineer, but with a lot of experience.
24 And I figured out what is that patent trying to

1 tell me to do. How would that system work. And
2 I felt it would be sufficiently inferior to what
3 we already did that I couldn't imagine
4 downgrading Google Earth to that.

5 But we also had a -- the patent
6 team at Google had a program where they
7 sometimes would buy or license patents that help
8 in a protective way in case of future actions.
9 What I told -- by e-mail, I didn't tell, I wrote
10 an e-mail telling Mr. Mayer, I'm not interested
11 in this for us. Maybe it's good for the patent
12 team. I'll ask if they're interested in this.
13 I'll forward it to them.

14 Q. If we could pull up, Mr. Ang,
15 Plaintiff's Exhibit 329. This exhibit has
16 already been admitted. Before we blow it up, I
17 want to make sure we put this in context.

18 Mr. Jones, can you see Exhibit
19 329?

20 A. It's here on my screen. I
21 couldn't see that one up there, but I can see
22 this one.

23 Q. Do you know what that is?

24 A. It's an e-mail from me to Pavel.

1 Q. Mr. Ang, maybe we could blow up
2 the top e-mail, the one from Mr. Jones to
3 Mr. Mayer.

4 THE COURT: Are we going to be
5 coming to a convenient time for a lunch break?

6 MS. SIMMONS: Any time is
7 convenient, Your Honor.

8 THE COURT: Why don't you finish
9 what you're doing.

10 BY MS. SIMMONS:

11 Q. Mr. Jones, what were you
12 explaining to Mr. Mayer in this E-mail from
13 February of 2006?

14 A. He wrote to me and he said well
15 really, you can't understand what we're doing
16 unless you come to Berlin to our office and see
17 what we've done because we have kind of a museum
18 of previously built things or a showroom I guess
19 like or Silicon Graphics showroom would have
20 been, can you come and see that, please, please
21 come and see that. I said I'm busy. Berlin is
22 not here, I'm here, I'm in California. I said
23 I'll come. I wrote him, I said I will come, I
24 will come see and I'm looking forward to that.

1 Q. And did you go to Berlin to visit
2 with Art+Com?

3 A. I did.

4 Q. Maybe this would be a good spot,
5 I'm going to ask him a bit about those
6 communications. Do you want to stop before
7 that?

8 THE COURT: It's up to you.

9 MS. SIMMONS: I don't want to cut
10 into lunch time.

11 THE COURT: Why won't we take our
12 lunch break now and we'll come back at 2
13 o'clock. The jury, remember not to discuss the
14 case.

15 (Jury exits.)

16 THE COURT: Is there anything we
17 need to do before lunch?

18 MR. PARTRIDGE: Your Honor, we do
19 have some objections to a deposition transcript
20 that Google wants to play this afternoon. There
21 could be two ways to do this. I could give you
22 a markup that I identifies the objections and
23 then we could look at it as soon as we come back
24 from lunch or we can talk about it first.

1 THE COURT: Why don't you give me
2 a markup and I'll look at it during lunch.

3 MR. PARTRIDGE: Okay. And for
4 your reference, when you look at the markup,
5 I'll give you two copies, there really are just
6 a couple of fundamental issues one of which
7 concerns the motion in limine that was agreed
8 that has to do with characterizations like troll
9 and PD and the like. And there's a set of
10 questions and answers about whether or not the
11 invention is practiced and how big the company
12 is, et cetera, et cetera, et cetera, which could
13 only be a set up, we think, for arguing NPE
14 status for Art+Com Innovation Pool --

15 MR. SNYDER: Your Honor, should we
16 excuse, Mr. Jones?

17 THE COURT: Yes, we should. But I
18 don't think we should be discussing this now.
19 Why don't we come back, let's say at 10 of 2, so
20 we don't delay the jury and we can resolve this
21 and then we'll bring in Mr. Jones and the jury
22 and continue with this.

23 MR. PARTRIDGE: Very well, Your
24 Honor. Thank you.

1 THE COURT: Thank you.

2 (Luncheon recess.)

3 THE COURT: Be seated please.

4 Okay. Mr. Partridge.

5 MR. PARTRIDGE: Yes, Your Honor.

6 I started to say before we took our lunch break,
7 Your Honor, that there are -- I wanted to sort
8 of summarize what these objections are about.
9 First, many of the questions go to the
10 equivalent of whether we were practicing,
11 whether ACI was a practicing entity which of
12 course it's not relevant at all to the issues in
13 this case and the second issue is that --

14 MR. SNYDER: Your Honor, it
15 appears we have an expert witness in the room.
16 Could we excuse him?

17 MR. PARTRIDGE: Please. And the
18 second is that there is a series of these that
19 also I think relate to the copying issue which
20 is not in the case, and that in terms of whether
21 or not source code was given and that series of
22 questions, the only possible explanation for the
23 inclusion of those is whether or not they relate
24 to copying, which isn't in the case. And the

1 problem with the set of questions is that it
2 creates an additional problem that I think is
3 confusing and prejudicial, which is the notion
4 that independent development is relevant to an
5 infringement case. And of course it's a strict
6 liability cause of action and so whether or not
7 somebody did it independently is not material
8 and not relevant to the issues of infringement.
9 I do need, since we don't have this document in
10 the record, to at least identify before we
11 finish here the page and line numbers that we
12 find objectionable. But those are essentially
13 the issues that we're raising with respect to
14 these sets of Q and A's.

15 THE COURT: Do you want to attach
16 this to the transcript as to what has been
17 objected to.

18 MR. PARTRIDGE: We can do it that
19 way too.

20 THE COURT: Why don't we do it
21 that way. We'll call this Court Exhibit A.

22 MR. PARTRIDGE: And all of my
23 copies have been distributed other than one that
24 I've marked up by hand, but if you have one that

1 the court reporter can use.

2 THE COURT: You can take my
3 clerk's copy there.

4 MR. PARTRIDGE: Okay. But those
5 are the objections.

6 THE COURT: I'll hear from Mr.
7 Snyder. My view as to the first one, that is
8 about the non-activity of ACI is that that
9 doesn't fall under the stipulation which refers
10 to pejorative characterizations of ACI or
11 Art+Com as a non-practicing entity in, in
12 quotes, patent assertion entity, quote, patent
13 troll, quote, or any other similar pejorative
14 characterizations. And I didn't see a
15 pejorative characterization like that in the
16 testimony that you marked. So as to that one,
17 I'm going to deny the motion.

18 On the other question of the copy,
19 it seems to me that it's difficult for me to see
20 why that testimony shouldn't be admitted that
21 you marked there, so why don't we hear from Mr.
22 Snyder about that.

23 MR. SNYDER: On the first
24 category, Your Honor, we completely agree with

1 you that the issues about pejorative references
2 and this does not make them on the second
3 category what they are calling evidence of
4 non-copying, this is an issue that they opened.
5 Their narrative and chronology in the opening
6 was about how these employees moved from Silicon
7 Graphics to Intrinsic Graphics to Keyhole to
8 Google and then created Earth and we saw them
9 put up their pictures time and time again. Then
10 they played the video testimony of Mr. Jones
11 about him seeing the ball at SGI and we need to
12 combat any inference that there was some kind of
13 copying. Now, it is true --

14 THE COURT: How about a way of
15 handling this of putting something in the final
16 jury instructions that there is no contention
17 that Google copied the ACI invention. Would
18 that be satisfactory?

19 MR. PARTRIDGE: It would be
20 satisfactory to us, Your Honor. As a matter of
21 fact, we are planning on sending you tonight a
22 few additional instructions we were going to
23 propose and that's included in them, so it is
24 acceptable to us to do that as a fix. We'll

1 probably propose something with respect to
2 characterizing this evidence of lack of activity
3 by ACI as opposed to Art+Com as NPE type stuff
4 as well. But that -- that is acceptable to us.

5 THE COURT: How about that, Mr.
6 Snyder?

7 MR. SNYDER: That would be
8 acceptable, your honor. And I believe that that
9 would apply to the designations.

10 THE COURT: 167.8 to --

11 MR. SNYDER: Through 171.18.

12 THE COURT: Yes.

13 MR. PARTRIDGE: I think it goes
14 over into the next page because the answer isn't
15 completed at 18.

16 MR. SNYDER: So it would go to
17 172.2. Those are not consecutive but they are
18 consecutive extracts from what we've marked as
19 Court Exhibit A.

20 MR. PARTRIDGE: That's correct. I
21 agree with that identification.

22 THE COURT: That material will be
23 left out of the video that was just identified
24 in this, but the other material I think that's

1 not covered by the stipulation and can be
2 included in the video.

3 MR. SNYDER: And just so there
4 isn't any surprise, Your Honor, because this
5 deposition was given in German, we're going to
6 have somebody play the role of the witness and
7 read it into the record.

8 MR. PARTRIDGE: Mr. Snyder, it was
9 done in English.

10 MR. SNYDER: Oh.

11 MR. PARTRIDGE: This one was done
12 in English. You don't have that copy.

13 MR. SNYDER: My mistake.

14 THE COURT: I have been working on
15 the final jury instructions and late this
16 afternoon after court I'm going to have a
17 revised version of those, which I will post on
18 the docket and you will be able to see. I would
19 suggest that you hold up for the moment in
20 suggesting changes to that until you've been
21 over the new version and make the suggested
22 changes based on the new version. And what I
23 think I'd like to do is to have a conference
24 after you recess tomorrow at around 5:15 or so,

1 an informal conference to discharge the charge
2 to try to work out as many of these issues as
3 can be worked out and then when we have the
4 formal charge conference on Friday morning
5 you'll be able to make any objections to things
6 you still object to, but this is an effort to
7 resolve as many of them as possible informally.
8 And I'd like to limit the number of attendees at
9 that conference, which we'll have in the
10 conference room here, to two lawyers for each
11 side.

12 MR. PARTRIDGE: That's acceptable
13 to us, Your Honor, that's fine.

14 MR. SNYDER: That's fine, Your
15 Honor.

16 THE COURT: Anything else we need
17 to do before we bring the jury back in?

18 MR. PARTRIDGE: Nothing from the
19 Plaintiff's, Your Honor.

20 MR. SNYDER: Nothing from the
21 Defendant.

22 THE COURT: Okay. Let's bring the
23 jury back in.

24 (Jury enters.)

1 THE COURT: Be seated, please.

2 And Ms. Simmons.

3 MS. SIMMONS: Thank you, Your
4 Honor.

5 BY MS. SIMMONS:

6 Q. Mr. Jones, I think before the
7 break we were looking at Plaintiff's exhibit
8 329. And Mr. Jones, let's focus in I think you
9 had explained what this was and I just want to
10 focus you in on that last sentence. What does
11 it say?

12 A. Says from me to Pavel, says please
13 know that we are eager to speak with you and do
14 believe that your patent seems useful as a
15 defense against possible future legal actions.

16 Q. Why were you eager to speak with
17 Mr. Mayer?

18 A. I was looking forward to seeing
19 his hardware, but also even though I couldn't
20 use the patent in the engineering part of
21 Google, I thought that maybe the patent team
22 could use it and they seemed willing to
23 entertain that conversation.

24 Q. And when you say the patent team

1 could use it, use it in what way?

2 A. They have kind of like a program
3 to buy or license patents that they thought that
4 maybe if there was ever a lawsuit with Microsoft
5 or something, that they could say we have this
6 army of patents and you have an army of patents
7 and maybe we should just have peace. I don't
8 know the word for that, but there's sort of a
9 mutual standoff. And we're a young company. We
10 had only been in business a few years at that
11 point, so we didn't have any of these patents,
12 so we thought maybe this could be one of those.

13 Q. Did Google want the patent to go
14 sue other companies?

15 A. No, we have never asserted, as far
16 as I know, any patent against anybody, and Larry
17 was not wanting to do that. We thought once you
18 have money basically you start getting sued and
19 Google was making money ans we knew we were
20 going to get sued left and right by people at
21 random, so we thought we could build up a little
22 barricade of patents around things even though
23 we didn't do them to deter people.

24 Q. Did you go see the Art+Com people

1 in Germany?

2 A. I did.

3 Q. What did you talk about?

4 A. Several things. We talked about
5 licensing the patent of buying the patent,
6 briefly, and we talked about most of the time
7 was spent touring their facility, and they
8 showed me really, you know, kind of like the
9 ball, but different. Rooms with projectors when
10 you walk on the floor it made ripples also in
11 the floor with pictures, these kind of nice
12 trade show exhibit things.

13 They showed me the nice demo out
14 on the balcony that I liked a lot. They showed
15 me what they do, and we talked about patents as
16 well.

17 Q. What happened next?

18 A. Well, I went away.

19 Q. Did you have any further
20 communications with Art+Com after your visit to
21 Germany?

22 A. I remember them sending mail to
23 Google asking about negotiation and things like
24 that.

1 Q. Let's, if we could, Mr. Ang, put
2 up Defendant's Exhibit 1109. And there are no
3 objections to this exhibit.

4 Before we blow it up, do you
5 recognize this exhibit, Mr. Jones?

6 A. Yes, I do.

7 Q. What is this?

8 A. This is a mail from Art+Com to
9 Michelle Lee at Google, nut it includes me on
10 the list of people who are being notified of the
11 mail. It's a -- it's mail about basically
12 Art+Com and Google had had a conference call and
13 they talked about things and Art+Com was telling
14 Google basically here Google, here is what I
15 heard from the call. Please let me know if you
16 agree with this or if you disagree with this so
17 we can agree together what we agreed in the
18 call, what topics were in the call.

19 Q. What did it mean that in the first
20 bullet point that Google viewed the patent as a
21 quote, nice to have patent?

22 A. Well, it basically confirmed the
23 opinion I had going in which was that it wasn't
24 going to be a need to have patent, that it was

1 going to be a nice to have patent. So we had
2 the, you know, a couple of categories of patents
3 and the ones that describe something that we
4 might want to start doing, you know, like we
5 make cakes, this is a good kind of icing, we
6 want to put that icing on our cakes, we license
7 the patent. While if it describes something we
8 already did, which would be like terrifying, was
9 like a necessary thing, wasn't like that. It
10 was a nice to have. It might be good in the
11 patent team's defensive arsenal in case we were
12 attacked, but nothing more than that.

13 Q. What about the second bullet, what
14 is that referring to?

15 A. This is -- want me to read it?

16 Q. Sure.

17 A. Says even if the patent would be a
18 hundred percent airtight or at least meeting
19 Google's comfort level, the maximum price Google
20 would be willing to pay is \$1 million to buy the
21 patent. So that means a couple of things. One
22 it meant that it wasn't air tight. And air
23 tight is not a -- I don't think it's a technical
24 lawyer phrase. I think it's just the meaning is

1 if it was really a good patent, you know, if it
2 was prepared right and disclosed right and filed
3 right and all that kind of stuff is just right,
4 then in that world, even that world we would not
5 be willing to pay more than a million, but it
6 doesn't quite say it here, but the even if was
7 because it was perceived that it was none of
8 those things, that it was actually flawed in
9 some technical way and that it wouldn't be
10 trustworthy for Google who's only interest of it
11 was to have a defensive posture. They were
12 afraid -- I remember being told in the hallway
13 by somebody, this doesn't seem like a good
14 patent. So I think they were trying to say
15 look, even if it was good, it would only be this
16 much, but it's not good.

17 Q. What happened next?

18 A. That's kind of interesting what
19 happened. I got another e-mail from Art+Com not
20 saying the patent was good, but saying that we
21 should pay more.

22 Q. Let's put that one up. Mr. Ang,
23 that's Defendant's exhibit 1071. Is this the
24 e-mail that you're referring to, Mr. Jones?

1 A. Yes, yes. And so that's from
2 Pavel again and he's basically saying look, I
3 talked to Andreas, our CEO, and I convinced him
4 that we think a price of 3 to 5 million would be
5 acceptable at this time. And so they thought --
6 you know, we had said look, we wouldn't even do
7 more than a million even if it was perfect,
8 which is isn't, and they said well, why don't
9 you pay 3 million now or 5 million. I guess
10 usually when somebody says 3 to 5, they mean 5
11 and you mean 3. But whatever it is, it was more
12 than 1, which we already told them we wouldn't
13 pay more than that. And at this time was a
14 non-starter because it was already -- we had
15 already said, look, it's not worth money at all
16 because of its problems.

17 Q. How did Google respond to this
18 e-mail?

19 A. I don't know that we ever
20 responded to it. It just was like a
21 nonresponsive answer. Tell somebody look, if
22 you fix the car, it might play. And they say
23 no, why don't you buy it now for this big number
24 and just say well, keep your car.

1 Q. What happened with the discussions
2 in 2006 between Google and Art+Com?

3 A. They ended. As far as I know,
4 they ended.

5 Q. At any point during the
6 discussions in 2006 did Art+Com tell you that it
7 thought that Google infringed its patent?

8 A. No.

9 Q. What about what Google was saying
10 to Art+Com, did anybody at Google, yourself
11 including, that you know of tell Art+Com that
12 Google would buy the patent at any point?

13 A. No.

14 Q. At any point during those
15 conversations did you tell Art+Com that you
16 thought Google didn't practice the patent?

17 A. Every single time I spoke to them.

18 Q. Do you know whether there were any
19 communications between Google and Art+Com after
20 2006?

21 A. I do know of one subsequent
22 conversation, yes.

23 Q. When was that?

24 A. I got an e-mail in 2010 from

1 Art+Com. I had kind of forgotten about it.
2 They wrote to me again in 2010.

3 Q. What did you do in response to
4 that e-mail?

5 A. I forwarded it to the patent
6 people.

7 Q. Go ahead?

8 A. I forwarded it, I thought here it
9 is again, so I forwarded it to the patent
10 people.

11 Q. Did you have any further
12 communications with Art+Com after that?

13 A. Never.

14 Q. When was the next time you heard
15 of or about Art+Com?

16 A. That was last year or yeah, last
17 year. I, you know, I was in my office and I was
18 descended upon basically or visited by two
19 Google attorneys and they said do you remember
20 Art+Com? And I said yeah. And they said they
21 just sued us, and, you know, we may be, you
22 know, talking to you in the future about the
23 trial things. So they were right. And here I
24 am.

1 Q. Okay. Thank you, Mr. Jones. I
2 have no further questions.

3 MR. HAWES: May I approach the
4 witness, Your Honor?

5 CROSS-EXAMINATION

6 BY MR. HAWES:

7 Q. Good afternoon, Mr. Jones.

8 A. Good afternoon, sir.

9 Q. So let's kind of start with SGI.
10 You talked a bit about your ClipMapping patent.
11 Do you remember that?

12 A. I do remember that.

13 Q. Were you the only inventor on that
14 patent?

15 A. There were four named inventors on
16 that patent.

17 Q. Did you work together with the
18 other inventors to prepare a patent application?

19 A. We did, in a sense, yes, we did.
20 We all worked together on the work. SGI used
21 outside patent firm to produce those, a company
22 called Stern Kessler Goldstein & Fox in
23 Washington D.C. We each interviewed with the
24 patent examiner, the patent attorney and they

1 videotaped us and they went away for a long time
2 and produced the patent and they came back to us
3 and review the drawings and review the words.

4 Q. When you say patent, you mean
5 patent application?

6 A. Patent application, yes.

7 Q. That was submitted to the patent
8 office?

9 A. It did submit. It was issued.

10 Q. And then a patent examiner took a
11 look at it; right?

12 A. I imagine so. That's what they
13 do, yes.

14 Q. And you said that you were not a
15 patent examiner earlier in your testimony. Do
16 you remember that?

17 A. I did.

18 Q. So do you have an understanding of
19 what a patent examiner is?

20 A. I did. I saw the video at the
21 opening of the trial as well. It was very nice.

22 Q. Is it your understanding the
23 patent examiner looks at the prior technology
24 and compares it to the application?

1 A. It's my understanding that the
2 patent examiner looks at existing patents and
3 some subset of technology and publications, yes.

4 Q. Does the patent examiner look at
5 other materials that are submitted by the
6 applicant?

7 A. Yes, those are the references,
8 just before the description.

9 Q. And do you remember if you
10 submitted any of those types of materials with
11 your ClipMaps patent application?

12 A. I'm sure they would be, yes.

13 Q. Now, you talked a lot about your
14 Earth demo that you created for Cambridge
15 Consulting?

16 A. A company called Cambridge
17 Research Associates in Virginia.

18 Q. And you talked about a creating
19 that in your living room; right?

20 A. Yeah.

21 Q. What year was it that you did
22 that?

23 A. 1999.

24 Q. And so that was after your time at

1 SGI; right?

2 A. After I left, yes.

3 Q. Now, you told your counsel that
4 you weren't contacted by Art+Com while you were
5 at Keyhole. Do you remember that?

6 A. Excuse me, sir, I told you that I
7 agreed with you it was my living room. Actually
8 it was my dining room.

9 Q. But it was still in 1999?

10 A. Yes, sir.

11 Q. And you testified that you weren't
12 contacted by Art+Com while you were at Keyhole;
13 correct?

14 A. Yes.

15 Q. And is it also true that you
16 didn't reach out to Art+Com during that time?

17 A. Certainly.

18 Q. Now, when Google purchased
19 Keyhole, you said that part of the deal was that
20 they take all the employees. Do you remember
21 that?

22 A. I do.

23 Q. And you said Keyhole was spun out
24 by Intrinsic Graphics. Do you remember that?

1 A. I do.

2 Q. And prior to that happening or
3 perhaps right after that happened, did Intrinsic
4 Graphics create a license agreement so that
5 Keyhole could use that Alchemy technology?

6 A. We did, I signed that document.

7 Q. And that included any patent
8 rights to the Alchemy technology; correct?

9 A. For the use in the -- in their
10 field, yes.

11 Q. And that field included Earth
12 Viewer; correct?

13 A. A geographic visualization.

14 Q. And when Google bought Keyhole, I
15 believe you testified that Google got all
16 Keyhole's assets; correct?

17 A. I don't know if I testified to
18 that at all. I don't remember discussing
19 assets. But certainly as far as I know, I
20 wasn't a lawyer involved in it. But everything
21 that was Keyhole became Google if that's the
22 meaning that.

23 Q. And that included contracts
24 Keyhole had; correct?

1 A. Yes.

2 Q. And those included contracts with
3 the government?

4 A. Yes.

5 Q. You spoke about how Google took on
6 obligations when they purchased Keyhole. Do you
7 remember that discussion, specifically with
8 regard to buying geographic data?

9 A. You mean my conversations with
10 executives and we're going to sell this to you,
11 but only if you let us get data for the
12 application?

13 Q. Yes.

14 A. Yes, I remember that conversation.
15 It wasn't a contract, it was a discussion in the
16 purchase.

17 Q. Did Google also take on
18 obligations in the form of long-term contracts
19 with the government?

20 A. It did.

21 Q. How long were the support
22 obligations in those contracts?

23 MS. SIMMONS: Objection. Calls
24 for legal conclusion.

1 THE COURT: Overruled.

2 A. Varying lengths. I'm sure there
3 are many contracts, so I don't know.

4 Q. Do you remember if Google took on
5 a twenty-year obligation to support the use of
6 Earth Viewer at the government?

7 A. I remember a lengthy, I think it
8 was twenty years with the National Geospatial
9 Agency. They were one of the investors in
10 Keyhole. And they had the right to use it for
11 free, but we had the right to charge them for
12 support. And in exchange they wanted it to be
13 supported. It's a government requirement that
14 they use supported software and not unsupported
15 software.

16 Q. Was there, in fact, a twenty year
17 obligation to support?

18 A. I believe there was. To my
19 knowledge I don't have -- I haven't seen the
20 actual contract, but I have been told it was
21 twenty years, yes.

22 Q. Did Google, in fact, support that
23 for twenty years?

24 A. The twenty years is not up yet.

1 Q. Has Google stopped supporting
2 that?

3 A. Well, they said they would, and
4 they postured to do so. And I have heard that
5 actually that support continued after I left.
6 So I'm not quite sure of the current status of
7 that.

8 MR. HAWES: Your Honor, may I
9 approach?

10 THE COURT: Yes.

11 MR. HAWES: And may I approach the
12 witness?

13 THE COURT: Yes.

14 BY MR. HAWES:

15 Q. And do you see that this is a copy
16 of a portion of your deposition. Your notebook
17 has the first page of your deposition together
18 with the time it was taken. It's the first part
19 of your notebook.

20 A. I see it.

21 Q. And at that deposition, do you
22 remember giving the deposition last summer in
23 this case?

24 A. I remember it vividly. I had

1 fallen the day before and broken bones in my
2 hands. And I was kind of crippled going into
3 that room that day. I could barely move, so I
4 remember it vividly.

5 Q. Were you sworn in under oath like
6 you were today?

7 A. I was.

8 Q. So what I would like you to do is
9 turn with me in the document that I've handed
10 you, and if you could turn with me, I would like
11 you to look at if you could page 321 of your
12 deposition. Do you see that?

13 A. I do.

14 Q. Actually, I'm sorry, can you turn
15 to 260, not 300?

16 A. I can do that, too.

17 Q. Thank you.

18 And do you see my question
19 stating, "As far as you know, I know you have
20 left Google now, but as far as you know those
21 support contracts have been honored?"

22 MS. SIMMONS: Objection, Your
23 Honor. This is improper impeachment.

24 THE COURT: Let's let the witness

1 look at it. It's overruled. Let's give the
2 witness a moment to look at the question and
3 answer.

4 BY MR. HAWES:

5 Q. The question and answer is in the
6 middle of that page.

7 A. I see it. Yes. I see the
8 question and answer.

9 Q. And am I reading the question
10 correctly: "As far as you know, I know you have
11 left Google now, but as far as you know those
12 support contracts have been honored?"

13 A. I see that.

14 Q. And your answer, and you can tell
15 me if I read it correctly. "I left within a few
16 months of them being reneged on. That lie
17 happened in January and I walked out the door
18 very soon after that, after helping ESRI build a
19 bridge to Google Earth users who were being
20 stranded."

21 Do you see that?

22 A. Yes.

23 Q. Was that your testimony?

24 A. It was.

1 MR. HAWES: No further questions,
2 Your Honor.

3 REDIRECT EXAMINATION

4 BY MS. SIMMONS:

5 Q. Mr. Jones, going back to the
6 testimony that you just spoke about, did you
7 come to learn that, in fact, Google Earth --
8 Google was continuing to support its Enterprise
9 contract?

10 A. I did to my great relief. And I
11 spoke to Allen Hustus and Eric Smith about I
12 though we had made a mistake here. And I was
13 glad to see just when I leaving, and I was glad
14 to see that something was done about that.

15 MR. SIMMONS: Thank you. No
16 further questions.

17 MR. HAWES: Nothing further, Your
18 Honor.

19 THE COURT: Let's see if the jury
20 has any questions.

21 Counsel approach.

22 (Side-bar discussion:).

23 THE COURT: The question is why
24 did you leave Google.

1 MS. SIMMONS: I don't see how
2 that's relevant to the issue in this case.

3 MR. PARTRIDGE: The question is
4 fine with us, Your Honor.

5 THE COURT: I don't think it's
6 relevant. I'm not going to ask it. Thank the
7 jury. There was one question, I've decided that
8 it should not be asked because it's not relevant
9 to the case, but I thank you for your attention.
10 I guess now the witness is excused subject to
11 recall?

12 MR. PARTRIDGE: No need to recall,
13 Your Honor.

14 THE COURT: All right. Thank you,
15 Mr. Jones.

16 THE WITNESS: Thank you, sir.

17 MR. SNYDER: Your Honor, Defendant
18 Google next calls by deposition Mr. Rous. Mr.
19 Rous is the director of publications at the
20 Association for Computing Machinery and he's
21 going to testify about their practices related
22 to publications at industry conferences,
23 including in a conference called SIGGRAPH. The
24 video is about seven and a half minutes long.

1 (Video playing.)

2 Q. Mr. Rous, could you please state
3 your name for the record?

4 A. Bernard Rous.

5 Q. Who is your current employer?

6 A. Association for Computing
7 Machinery.

8 Q. Would it be okay if I called
9 Association For Computing Machinery ACM?

10 A. Yes.

11 Q. Okay. And how long have you
12 worked at ACM?

13 A. Since 1980.

14 Q. What is your current position at
15 ACM?

16 A. I'm the director of publications.

17 Q. At ACM were you always involved in
18 the publications department?

19 A. Yes.

20 Q. And as the director of
21 publications, could you briefly outline your
22 duties and responsibilities?

23 A. Yes. I'm responsible for the
24 direction of the publications program,

1 development of new titles, the operations, the
2 production, the strategic direction for
3 delivery, which is now through our digital
4 library. Let me just ask some general
5 background about ACM. What does ACM do, just
6 generally.

7 A. It's a not for profit scientific
8 and educational society for professional
9 computer scientists, researchers, educators and
10 practitioners in the field. We produce a number
11 of programs for that community, and for a
12 broader community that's outside -- it's a
13 membership organization, so both for our members
14 and outside the -- that. The largest programs
15 are conferences and publications.

16 Q. Can you generally describe what
17 the SIGGRAPH convention is?

18 A. So within the ACM organizations
19 there are a number of special interest groups
20 called SIG, special interest groups. And
21 SIGGRAPH is the special interest group on
22 graphics. And most of the SIGs run conferences.
23 And SIGGRAPH has its annual SIGGRAPH conference
24 event, which consists of a number of tracks or

1 programs. In 1995 it had an exhibit, a big
2 exhibit hall for industry. And it has a
3 technical program, it has electronic theater, an
4 animation festival, there are a whole bunch of
5 different tracks.

6 Q. Okay. And what was ACM's
7 relationship to SIGGRAPH?

8 A. SIGGRAPH is one of ACM's special
9 interest groups.

10 Q. Okay. And do you -- in terms of
11 the SIGGRAPH convention, do you know -- can you
12 describe who generally attends those
13 conventions?

14 A. Yes. The -- the SIGGRAPH event is
15 attended by both computer scientists and people
16 who are in industries related to computer
17 graphics.

18 Q. Is attendance open to the public,
19 or is it by invitation?

20 A. It's open to the public.

21 Q. Okay. And so SIGGRAPH '95, do you
22 know where that one was held?

23 A. Los Angeles.

24 Q. And do you know -- well, we

1 mentioned August '95, but can you tell me what
2 dates the conference was held?

3 A. August 2 to 11.

4 Q. And how about the exhibition for
5 SIGGRAPH '95?

6 A. It ran alongside those -- within
7 those dates.

8 Q. Were any materials given to
9 attendees of SIGGRAPH '95?

10 A. Yes. Generally speaking, the
11 attendees are given -- the CD-ROMs that are
12 produced as hard copy of the proceedings are
13 also distributed to attendees, and in this case
14 and also the -- this program and buyers guide
15 was also distributed.

16 Q. Was this CD made around the time
17 of SIGGRAPH '95?

18 A. Yes.

19 Q. Was it made prior to SIGGRAPH '95?

20 A. Yeah, it was manufactured prior
21 and delivered so it could be handed out at the
22 event, yes.

23 Q. Do you know if there -- if these
24 CD's were given out during SIGGRAPH '95?

1 A. Yes.

2 Q. Okay. Do you know if they were
3 given out only at the beginning, during the
4 admission period?

5 A. Well I -- I -- normally
6 speaking -- I can't talk to the specific year,
7 but normally speaking when people enter, they
8 have their registration badge, or whatever they
9 get to acknowledge that they paid their
10 registration fees, and as they come in, they
11 pick up what's being distributed to them.

12 Q. Do you know about how many CD's
13 were created for SIGGRAPH '95?

14 A. No, I don't.

15 Q. Okay. Or similar question, but do
16 you know how many CD's were distributed?

17 A. No, I don't.

18 Q. Did you personally supervise the
19 creation of the multimedia or proceeding CD's
20 for SIGGRAPH '95?

21 A. No.

22 Q. Do you know if anyone in your
23 publication office did that?

24 A. Certainly nobody who is there now,

1 and doubtfully that it was actually somebody on
2 staff at headquarters for ACM that supervised
3 that vendor.

4 Q. And just so that we're clear, the
5 multimedia and proceeding CD's for SIGGRAPH '95
6 would not have been created by your office of
7 publication but by a vendor that was hired for
8 that purpose?

9 A. Yes.

10 Q. And sitting here today, you can't
11 recall who that vendor was?

12 A. No.

13 Q. Now, I take it that this was your
14 offices general practice that these CD would be
15 furnished by vendors separate from your office?

16 A. Yes.

17 Q. Now, when these CD's were shipped
18 to the conference site, was that done by the
19 vendor or would the vendor send the CD to your
20 office and your office would be the one to
21 arrange for the shipment?

22 A. To the best of my knowledge, it --
23 it is shipped directly from the vendor to the
24 sites that are specified in the order.

1 Q. Do you have any clear recall of
2 anyone having confirmed personally to you that
3 those CD's had been shipped to the conference
4 site in Los Angeles?

5 A. No.

6 Q. Have you ever attended a SIGGRAPH
7 conference?

8 A. Yes. I think I did go to one of
9 them.

10 Q. Okay. Did you go to the one in
11 Los Angeles in 1995?

12 A. No.

13 Q. When you say that the CD-ROMs were
14 distributed at SIGGRAPH '95 in Los Angeles, are
15 you basing that testimony primarily on your
16 understanding of the general practice of how ACM
17 goes about putting these conferences together?

18 A. Yes.

19 (Video end.)

20 MR. SNYDER: That is the end of
21 the video, Your Honor. Defendants move into
22 evidence Defendant's exhibits 1001, 1001A and
23 1001B.

24 MR. SPEARS: No objection.

1 THE COURT: They are admitted.

2 MR. SNYDER: Thank you, Your
3 Honor. And also for Mr. Jones testimony
4 Defendant's move the admission of 1095 and 1109.

5 MR. HAWES: No objection, Your
6 Honor.

7 THE COURT: They are admitted.

8 MR. SNYDER: Thank you, Your
9 Honor. Defendant Google calls its next witness
10 Mr. Stephen Lau. Mr. Lau previously worked for
11 SRI International and Mr. Lau is going to
12 testify about his work in the early and mid '90s
13 on the SRI TerraVision system and the
14 questioning will be done by Mr. Almeling.

15 STEPHEN LAU, JR.,
16 the deponent herein, having first
17 been duly sworn on oath, was
18 examined and testified as follows:

19 MR. ALMELING: Your Honor, may I
20 proceed?

21 THE COURT: Yes. And why don't
22 you introduce yourself.

23 MR. ALMELING: Thank you, Your
24 Honor. My name IS David Almeling and I'm also

1 one of the counsels for Google. It's good to
2 see you again.

3 BY MR. ALMELING:

4 Q. Good afternoon.

5 A. Good afternoon.

6 Q. So you're here today to talk about
7 SRI TerraVision. Let's take those in turn.
8 What is SRI and what is TerraVision?

9 A. SRI is a not-for-profit company,
10 formally known as Stanford Research Institute,
11 and we performed research for commercial and
12 also government entities.

13 Q. TerraVision, what is that?

14 A. TerraVision was an earth
15 visualization application that I developed that
16 used a course defined algorithm to retrieve
17 images data across the network from multiple
18 servers.

19 Q. Before you worked at SRI, where
20 did you work?

21 A. I worked at a company named
22 ExpertSoft down in San Diego, California.

23 Q. And what are they and what did you
24 do?

1 A. ExpertSoft was a consultant
2 company, we did consultant work for working on
3 contracts with the federal government and also
4 commercial entities also. And my job there was
5 develop visualization including terrain
6 visualizations.

7 Q. And is it correct that then you
8 went to SRI?

9 A. Yes, I was hired directly by SRI
10 to work on the Magic project to develop the
11 terrain visualization application, which had
12 be -- came to be known as TerraVision.

13 Q. For how long did you work as SRI?

14 A. I worked at SRI from 1992 to May
15 of 1996.

16 Q. How about now, where do you work?

17 A. I work at North Berkley National
18 Labs in Berkley, California.

19 Q. Do you work for Google?

20 A. No, I do not.

21 Q. Have you been retained as a
22 consultant in this litigation?

23 A. Yes, I have.

24 Q. How are you being compensated for

1 your work in this litigation?

2 A. I make 450 an hour.

3 Q. Does your compensation depend in
4 any way on the testimony you give or the outcome
5 of this case?

6 A. No, it does not.

7 Q. And now let's return to
8 TerraVision. Can you give a little more detail
9 about what specifically you did as part of
10 TerraVision?

11 A. I was hired to develop the
12 application that became known as TerraVision. I
13 wrote about 89 percent of the source code.

14 Q. The name TerraVision, at SRI who
15 came up with that name?

16 A. I did.

17 Q. How did you do that?

18 A. When I worked at ExpertSoft, I
19 worked on a project known as Exterra, and when I
20 went to SRI it was being called terrain
21 visualization application, which is a mouthful.
22 We needed a new name, so I took the old name
23 Exterra, Terra, vision, visualization and put
24 the two together and people liked it. It stuck.

1 Q. What did your colleagues think
2 when you told them about the name TerraVision?

3 A. They liked it much better than
4 terrain visualization application. It was a
5 mouthful.

6 Q. TerraVision was a government
7 project. What were the goals of TerraVision?

8 A. One of the goals of TerraVision
9 was to do research and visualization for the
10 public domain for the general public. We were
11 funded by the federal government to do that.
12 Our research was open to be publish.

13 Q. This is a patent case. Did SRI
14 ever get any patents on TerraVision?

15 A. No, we did not.

16 Q. Why not?

17 A. Yvan Leclerc who was my manager
18 and colleague discussed it, however, the project
19 that we were working on, TerraVision, was meant
20 for the public domain. It was funded by the
21 federal government. And we also were looking at
22 the algorithms we were developing and we believe
23 it was not innovative enough to be a patent.

24 Q. Why did you think that?

1 A. Because one thing, I was already
2 working on algorithm such as coarse to fine.

3 Q. You mentioned a name, Yvan
4 Leclerc. Who was that?

5 A. Yvan Leclerc was my manager and
6 also my colleague.

7 Q. Where is he now?

8 A. Unfortunately Mr. Leclerc has
9 passed away.

10 Q. So let's dive into TerraVision a
11 little bit. Can you show and tell the jury how
12 it worked.

13 A. Yes. It's a visual application so
14 what I have is a video from 1994 that can be
15 shown.

16 Q. I would like to direct you in your
17 binder to exhibit DTX 1088.

18 MR. ALMELING: Your Honor, neither
19 this exhibit or any of the others that will be
20 used in this direct examination have been
21 objected to. May I publish it to the jury?

22 THE COURT: Yes.

23 BY MR. ALMELING:

24 Q. Before we play Exhibit 1088, can

1 you explain what it is?

2 A. The video that you're about to
3 see, that was a video that Yvan Leclerc and I
4 developed and published so that people will be
5 able to see how TerraVision worked. If I was
6 not able to demonstrate it or we were unable to
7 demonstrate it, it was meant to be shown at
8 conferences and symposiums.

9 Q. When did you guys create it?

10 A. Early 1994.

11 Q. How long is the video and how long
12 is the bit that we're going to watch?

13 A. The video itself, entirety is
14 about eleven minutes long and what you're going
15 to see is a four-minute excerpt.

16 MR. ALMELING: Mr. Ang, can you
17 play the video.

18 (Exhibit DTX 1088 is played for
19 the jury.)

20 (End of videotape)

21 BY MR. ALMELING:

22 Q. The video looked really, really
23 grainy. Why?

24 A. Well, it was -- we made it in

1 1994, and this was a copy taken off of VHS tape
2 so it degraded over time. One of the other
3 things in terms of the terrain being fuzzy, we
4 wanted to show it working across the network and
5 pulling images from across the network.

6 Q. Did that look, video look better
7 when it was played in 1994?

8 A. Yes, a lot better in 1994.

9 Q. Let's talk about some of the
10 things that the video said. One is something
11 called ISS. What's that?

12 A. The ISS was the image server
13 system which was developed by Lawrence National
14 Labs and it would store the image data that was
15 provided to TerraVision.

16 Q. And where were the ISS servers for
17 the demonstration shown in the video?

18 A. In the video itself, the ISS we
19 had ISS located at the National Lab in Berkley.
20 We also had a ISS at the University of Kansas,
21 KU, who was also a partner in the project. Also
22 a server in Kansas City, and at U.S. Geological
23 Survey up in Sioux Falls, Minnesota, and
24 Minnesota Super Computer Center.

1 Q. The video mentioned that in some
2 instances you couldn't predict where the user
3 was going to go such as if a user clicked in an
4 unexpected place. What happened then?

5 A. It used a course to fine algorithm
6 as you saw in the video to try to come up with
7 the best display it could. We also would send
8 out on the request to the ISS to try to retrieve
9 the information to be able to display it.

10 Q. For those instances that you just
11 described, how would the TerraVision system
12 determine which tiles to then fetch?

13 A. So we used what's called a
14 frustum, a field of view. So it would project
15 out where you're looking in the terrain and
16 where you're at, figure out how far away each of
17 the tiles should be, what the best tile there,
18 so as you moved around the field of view, like a
19 flashlight would move over terrain and you would
20 be able to figure out which tiles are the best
21 tiles for that view.

22 Q. The video also mentioned a group
23 of four tiles. What's that?

24 A. The group of four tiles utilized

1 what's called a Quadtree which was an internal
2 representation of the coarse to fine, coarse to
3 fine resolution pyramid.

4 Q. And one more vocabulary, the video
5 mentioned a resolution pyramid. What's that?

6 A. The resolution pyramid as you saw
7 in the video there, because you didn't want to
8 have all of the tiles, you couldn't have all the
9 tiles on the screen at one time when you were
10 looking at a large area, we would take a large
11 sample of one tile, subdivide that into four
12 down to the next lower level resolution, sub
13 those four down into the next lower resolution
14 until you got to the fine resolution, the
15 highest resolution that you had.

16 Q. At the beginning of the video is
17 2D and toward the end it was 3D or
18 three-dimensional. How did that work?

19 A. So in TerraVision you could
20 display the information either as a 2D, it's
21 flat like you saw on the screen, or else in 3D,
22 like a flight simulator like you're looking out
23 the window.

24 Q. In those cases of a

1 three-dimensional view, how did TerraVision
2 create that view?

3 A. From the US Geological Survey, we
4 received what's called a digital elevation
5 model, as you saw the mountains and all the
6 elevation there. We take that information from
7 the ISS, we would tessellate it, break it down
8 in polygonal triangles, take the images
9 corresponding from that, from the ISS, and then
10 drape that over the terrain so that then you see
11 a three-dimensional view like it's out the
12 window.

13 Q. I'm not sure I heard you. Did you
14 say polygonal triangles?

15 A. Yes.

16 Q. What's that?

17 A. The polygonal triangle, it's
18 called tessellation.

19 Q. Thank you.

20 Did you prepare any materials as
21 part of preparing the video?

22 A. Yes. We, Yvan and I created a
23 script.

24 Q. When did you create that script?

1 A. Early 1994, the same time as the
2 video.

3 Q. Did you ever show it to anyone?

4 A. Yes, it was published at the Magic
5 Technical Symposium in August of 1994.

6 Q. Mr. Lau, I'm going to show you an
7 exhibit which has been marked DTX 1087.
8 Mr. Ang, if you could pull that up, please.

9 What is this?

10 A. What you're seeing on the screen
11 there is the cover of the 1994 Magic Technical
12 Symposium proceedings that occurred at the
13 University of Kansas in August of 1994.

14 Q. We'll talk more about the
15 symposium in a little bit. First I want to show
16 you a page of this.

17 And Mr. Ang, if you could please
18 turn to the slide that ends 367.

19 What's this?

20 A. This is a script for the
21 TerraVision video that you just saw.

22 Q. And does this script accurately
23 represent the entirety of what is TerraVision?

24 A. Unfortunately not. As you saw,

1 TerraVision is a very visual application so one
2 would really need to see the video with the
3 script itself. If you scroll down a little bit,
4 please. You see in square brackets there near
5 the bottom, it says fly through 37 seconds, that
6 is what you would be seeing on the screen while
7 the script was being read.

8 Q. Other than the script and the
9 videos, did you create any other materials in
10 the early 1990s about TerraVision?

11 A. Yes. We wrote technical
12 publications that were published.

13 Q. I would like to show you Exhibit
14 1023, and that is DTX 1023. Thank you.

15 What's this one?

16 A. This is a SRI technical paper that
17 Yvan Leclerc and I wrote and published. It
18 described TerraVision and how TerraVision
19 operates.

20 Q. You mentioned that you published
21 it. When did you publish this?

22 A. April of 1994.

23 Q. How do you know that?

24 A. I remember crafting this document

1 and submitting it to SRI international
2 publication system and they issued a number to
3 it, and the number issued was number 540.

4 Q. I want to show you a couple of
5 pages in this document. Let's start with the
6 one that ends 159. And I want to show you the
7 figure at the top. Figure 1. Do you see that?

8 A. Yes, I do.

9 Q. What is that?

10 A. That's a representation of the
11 Quadtree.

12 Q. And then the TerraVision system
13 use a Quadtree?

14 A. Yes, it did.

15 Q. I also want to show you a little
16 bit further down this same page if I could, the
17 second paragraph under the heading 2.4. Can you
18 please read that first sentence aloud and then
19 explain to the jury what that means?

20 A. Our approach is to use a coarse to
21 fine search on a Quadtree representation of the
22 terrain.

23 And that is how TerraVision was
24 able to use -- be able to do the search from

1 coarse to fine, low resolution to high
2 resolution, fine resolution, to display it,
3 retrieve information from across the network.

4 Q. Was TerraVision the first time
5 that you ever used a coarse to fine process for
6 an earth visualization program?

7 A. No, it was not.

8 Q. When was it?

9 A. When I was working at ExpertSoft
10 back in the early '90s.

11 Q. And in what context did you use a
12 coarse to fine earth visualization process?

13 A. At ExpertSoft my job there was to
14 develop this terrain visualization, so when the
15 common technique to do is to use coarse to fine
16 in order to be able to display a nice view of
17 like an out the window.

18 Q. I would like to show you another
19 exhibit. This one is DTX 1193. Mr. Ang, if you
20 could pull that one up.

21 What's this one?

22 A. This is a publication of the
23 overview of the magic project. It was created
24 by all the members of the magic project,

1 contributed to it, and it was Barbara Fuller and
2 Ira Richer were the ones that took all our
3 materials and condensed it down into one
4 document.

5 Q. You said the word magic a lot.
6 What is magic?

7 A. Magic was the federal, umbrella
8 federally funded research project that terrain
9 visualization was a trained visualization
10 application part of that project.

11 Q. Who authored this article?

12 A. All the members of the magic
13 consortium created portions of this document,
14 and Barbara Fuller and Ira Richer did the
15 editing down into one cohesive document.

16 Q. You mentioned it was published in
17 December of '93. How do you know that?

18 A. I remember crafting it and
19 drafting it back in December of 1993, submitting
20 it into the other members of the magic
21 consortium, submitting it into Barbara Fuller
22 and Ira Richer who edited down and shipped it
23 back for us to review.

24 Q. I want to get your thoughts on two

1 more documents. First is DTX 1036. And again,
2 what is this exhibit?

3 A. This exhibit is the proceedings
4 that were handed to attendees from the 1995
5 Magic Technical Symposium that was held in
6 August of 1995 in Minneapolis, Minnesota.

7 Q. Were you there.

8 A. Yes, I was.

9 Q. What was your role regarding the
10 materials that are in Exhibit 1036?

11 A. Yvan Leclerc and I crafted the
12 terrain visualization materials that went into
13 the proceedings that was published in the
14 proceedings?

15 Q. I want to show you a figure in
16 this document. It's at page N065. The top
17 figure I want to talk about. Can you please
18 explain what's shown here?

19 A. So this is a graphical
20 representation of the magic testbed. Magic was
21 a high speed network and this is a testbed. All
22 the boxes around there is a how -- was showing
23 how you could have multiple ISS servers located
24 anywhere on the network and also you could have

1 terrain visualization running at multiple
2 locations simultaneously.

3 Q. Can you point out where the
4 various ISS servers are?

5 A. Starting from the top, you see the
6 USGS Data Center and you see the ISS server,
7 there is three of them. And going over to the
8 three o'clock position, you see the US West
9 Compass Lab in Minnesota had another ISS lab
10 there. You have another ISS distributor in
11 Kansas City, the Sprint headquarters, and then
12 at the 7 o'clock position, you have another ISS
13 distributor at the University of Kansas in
14 Lawrence, Kansas. And then finally you have a
15 ISS in Fort Leavenworth in Fort Leavenworth,
16 Kansas. Those are all the participants of the
17 magic project.

18 Q. Were all these ISS servers at
19 their geographical locations used as part of the
20 terrain visualization system?

21 A. Yes, that was the purpose of the
22 terrain visualization system to be able to pull
23 data from multiple locations.

24 Q. Next is DTX 1037. I want to get

1 your thoughts on this one, too. Can you please
2 pull that up, Mr. Ang.

3 Same thing, what is this document?
4 Let's start there.

5 A. This document is another
6 publication that Yvan Leclerc and I created.
7 This was one that described the tile sets which
8 is what terrain visualization used in order to
9 be able to display the pages.

10 Q. When was this document published?

11 A. This was also published in April
12 of 1994.

13 Q. I want to show you one page on
14 this. DTX 1037, page 176, those are the last
15 three digits, section 1.1.4 is about coordinate
16 systems. What's this section about?

17 A. This is about the various
18 coordinate systems that was in use within
19 TerraVision.

20 Q. And can you describe some of those
21 coordinate systems?

22 A. Yeah. We used various coordinate
23 transformers within TerraVision. We used
24 transformers from a three-dimensional, that is

1 where the terrain is, to the two-dimensional
2 screen, that is here on the screen. Another one
3 we used was coordinate transformation was from
4 latitude longitude to a number of -- so you are
5 point of view back to the origin, like zero zero
6 zero zero zero instead of that long.

7 Q. That last one, can you explain why
8 you did that?

9 A. Yeah, because you were able to
10 teleport and move from various locations very
11 quickly like say from Wilmington, Delaware here,
12 which had one set of latitude and longitude
13 coordinates to say Seattle, Washington, which
14 had a completely different set of latitude
15 longitude coordinates, those are very big
16 numbers. The earth is very big. And at the
17 time you could get precision errors in doing
18 those calculations. So what we did is we
19 normalized that down, brought those down,
20 translated you back to zero zero zero, wherever
21 your point of view was, in Wilmington or Seattle
22 and used a coordinate system based upon that.

23 Q. You've talked about your video,
24 we've talked about some of your documents. Now

1 I want to move on and talk about demonstrations.

2 Did you ever use TerraVision in public?

3 A. Yes. We demonstrated TerraVision
4 in multiple locations, including the 1994 Magic
5 Technical Symposium and also at SIGGRAPH '95 in
6 Los Angeles, California.

7 Q. Let's start with the latter and of
8 course everyone in this room knows what that is
9 because we've been talking about it for days.
10 Did you attend that conference in 1995?

11 A. Which conference?

12 Q. SIGGRAPH '95?

13 A. Yes, I was in attendance at
14 SIGGRAPH 1995.

15 Q. And did you present anything as
16 part of that conference?

17 A. Yes, I did live demonstrations of
18 TerraVision in operation on the exhibit floor
19 retrieving data from the, across the network
20 across the magic network and also showed the
21 video that you saw in a loop on a TV screen.

22 Q. How did the video that you showed
23 compare to the one that we all watched?

24 A. A lot better quality. So no, it's

1 the same video, but it was a clearer quality,
2 but it was from back then.

3 Q. How about the demonstrations, how
4 did you demonstrate how TerraVision worked at
5 that time?

6 A. So had a workstation there that
7 actually could run TerraVision. And once again
8 we had ISS's scattered throughout the magic
9 network as you saw. So TerraVision in operation
10 would actually pull that information across the
11 internet from the magic network and display that
12 in real time on the show floor.

13 Q. How many people saw that
14 demonstration?

15 A. Approximately about at least 500.

16 Q. And how did that demonstration of
17 the TerraVision system compare to the features
18 that were shown in the video?

19 A. They are the same features that
20 were shown on the video with TerraVision.

21 Q. And how do the features of the
22 version of TerraVision that you've demonstrated
23 compare to the features described in the
24 documents that we walked through?

1 A. The features of TerraVision that
2 was demonstrated at SIGGRAPH 1995 were the same
3 that was, that was in the papers that had been
4 published to date, including the ones that we
5 have talked about.

6 Q. And from where did the -- which
7 ISS servers throughout the country did the
8 TerraVision system that you demonstrated at
9 SIGGRAPH '95 request data?

10 A. We requested data from ISS server
11 at Multiple International Laboratory. And we
12 also pulled data from ISS servers across the
13 Magic network in Lawrence, Kansas, Sioux Falls,
14 South Dakota, so we were demonstrating not only
15 TerraVision, but Magic network.

16 Q. Art+Com, did you see them at
17 SIGGRAPH '95?

18 A. Yes, I did.

19 Q. Did you talk with any of them?

20 A. Yes, I did.

21 Q. Did you exchange any materials?

22 A. Yes. They actually were literally
23 across the hall, not hall, across the aisle from
24 me. And we thought it was kind of funny that

1 they were across -- so I talked a lot with them
2 and I also gave them the source code to
3 TerraVision.

4 Q. I'm sorry, you gave the
5 TerraVision source code, you gave that to
6 Art+Com?

7 A. Yes.

8 Q. Why can you do that?

9 A. So once again, Magic was a --
10 TerraVision was a federally funded project that
11 was meant to be put in the public domain so
12 people could use those algorithms in the spirit
13 of collaboration. They were very interested in
14 how we were able to retrieve information from
15 across the network and to be able to do that in
16 real time. They were interested in the high
17 resolution of our data, so in the spirit of
18 collaboration provided them with the source
19 code, walked them through it and talked to them
20 about it.

21 Q. How did you show them the source
22 code?

23 A. I had the source code there that
24 was compiled to run on the workstation to get

1 the demo running, so during the time we were
2 setting up I could show them, walk them through
3 the source code.

4 Q. Was SIGGRAPH '95 the first time
5 that you ever heard of Art+Com?

6 A. No, it wasn't actually.

7 Q. When was it?

8 A. Late 1994.

9 Q. How did you hear of Art+Com in
10 '94?

11 A. So I live in San Francisco and one
12 day I was driving and there was a plant store or
13 flower shop called TerraVision. I thought that
14 was kind of funny that somebody was using the
15 exact same name for something completely
16 different. When I got to my office I decided to
17 type it into a very rudimentary search engine
18 back then and I was expecting the flower shop,
19 the plant shop, but Art+Com showed up instead.

20 Q. What did you do when you learned
21 about that?

22 A. I showed the website, Art+Com
23 website to my manager.

24 Q. And then what?

1 A. We thought it was very interesting
2 the fact that there was another research --
3 application out there with the same name doing a
4 similar type of thing so we contacted them.

5 Q. I'm going to show you another
6 document. This is DTX-1196. Mr. Ang, if you
7 could please pull that up. Now, this is
8 difficult to read, so I want to take it in
9 parts. Let's start with the two in the front.
10 Thank you. And if you could blow that up even
11 more. I'm having a hard time seeing that.
12 Thank you very much. The to line is to Pavel at
13 artcom.de. Who is that?

14 A. That was Pavel from Art+Com.

15 Q. And the cc line, do you see
16 lau@ai.sri.com?

17 A. Yes, I do.

18 Q. And is that your e-mail address?

19 A. That was e-mail address while I
20 was at SRI International.

21 Q. I want to show you a little bit
22 about this document and particularly what I want
23 to do is I want to show you the third paragraph
24 of the top e-mail, which is an e-mail from Yvan

1 to Pavel and we'll make this as big as we
2 possibly can and it reads, just so we're on the
3 same page, quote, what is remarkable is not only
4 the similar names, but that TerraVision also
5 uses a multi-resolution pyramid of imagery that
6 allows the user to zoom in from high altitude
7 down to low altitudes and also uses ATM image
8 servers, end quote. I want to focus on the bit
9 about the similar names. What does that refer
10 to?

11 A. That refers to the fact that both
12 of us was using the name TerraVision.

13 Q. So what happened next? How did
14 you address these similar names issue?

15 A. So we wanted to stop having name
16 collision, so we talked with Art+Com, we talked
17 to them about what TerraVision, our TerraVision
18 was doing, they talked to us about what their
19 TerraVision was doing and we both jointly
20 determined that SRI International TerraVision
21 was first, so they decided, they determined --
22 they changed their name to T underscore Vision.

23 Q. What do you mean that SRI
24 TerraVision was first?

1 A. We were first and as we discussed
2 with Art+Com that we were also at least one to
3 two years ahead of them.

4 Q. Did SRI TerraVision change it's
5 name after that conversation?

6 A. No, we did not.

7 Q. And did Art+Com change the name of
8 its system?

9 A. Yes, they changed it. They
10 changed it to T_Vision.

11 Q. Were you given any materials as
12 part of your attendance at that conference?

13 A. Yes, all the attendees received a
14 printed proceedings from the conference itself
15 and also a CD-ROM containing electronic versions
16 from the conference itself.

17 Q. So I have in my hand a copy of a
18 CD that was produced by ACM in this case and
19 just discussed in the previous video. I'm now
20 going to give this to Mr. Ang. And Mr. Ang, if
21 you could put the CD 1 into the CD-ROM drive of
22 your computer and pull that up. Do you
23 recognize this?

24 A. Yes, I recognize it as the front

1 of the CD that was provided to us to all the
2 attendees at SIGGRAPH '95.

3 Q. I want to show you the community
4 folder and Mr. Ang, if you could click on that.
5 Do you recognize this?

6 A. Yes, I do.

7 Q. What is it?

8 A. It is one of the directories on
9 the CD-ROM that was provided to the attendees.

10 Q. Now, I want to scroll all the way
11 down at the bottom, the index.htm, if you could
12 click on that. And do you recognize this?

13 A. Yes, I do.

14 Q. What is it?

15 A. It is a table of contents for the
16 various research projects that was what was
17 called interactive communities which was the
18 research part of the exhibit hall. And --

19 Q. Was your research project on this?

20 A. Yes, you see about midway down,
21 very tiny, tiny font there, it says Magic
22 Gigabit Testbed.

23 Q. Before we go there, do you see at
24 the bottom where it says T_Vision is another

1 link you can click on?

2 A. Yes. I see T_Vision down the
3 bottom there.

4 Q. Let's go to Magic first. Click on
5 that, Mr. Ang. What's this?

6 A. This is a description that we
7 submitted into SIGGRAPH '95 that describes the
8 Magic Gigabit Testbed and TerraVision.

9 Q. And based on what you've seen, do
10 you believe that this is a copy of the CD that
11 you got at SIGGRAPH '95?

12 A. Yes.

13 Q. And why, what makes you believe
14 that?

15 A. I recognize the materials that are
16 submitted in, also on the previous page there
17 was a SIGGRAPH '95 logo. And I also recall some
18 of the research exhibitors that attended there,
19 including T_Vision.

20 Q. And just so that the, the record
21 is clear here, I want to go to a different
22 exhibit that has some printouts from this. I
23 want to go to DTX-1101B. I'm sorry, 1001B. And
24 if you could click through these documents

1 briefly, Mr. Ang, just click through the pages
2 from one to the next. What did we just click
3 through?

4 A. We just clicked through the
5 various folders that were on the CD-ROM to see
6 some of the, some of the material that was
7 provided, including Magic Gigabit Testbed.

8 Q. We talked about SIGGRAPH '95 and
9 the last thing I want to talk about is the one
10 other conference that you mentioned being at and
11 showing TerraVision and you called it Magic '94.
12 What was that?

13 A. Magic '94 was the Magic Technical
14 Symposium that we put on in 1994 in Lawrence,
15 Kansas, at the campus of the University of
16 Kansas.

17 Q. Were you there?

18 A. Yes, I was.

19 Q. Did you present anything?

20 A. Yes. I gave a demonstration, a
21 live demonstration of TerraVision to the
22 attendees. And we also showed, Yvan and I
23 showed the video that you saw a few minutes ago
24 and we also gave a talk about TerraVision at the

1 symposium.

2 Q. You said you demonstrated it. How
3 did you demonstrate TerraVision at Magic '94?

4 A. We had a live demonstration that
5 we worked on a workstation and -- on a
6 workstation, and we had ISS's located at various
7 locations on the magic network and we did a live
8 demonstration of TerraVision being able to
9 retrieve the data from across the network in
10 real time as you fly.

11 Q. And about how many people attended
12 that demonstration?

13 A. Approximately about a hundred
14 people.

15 Q. How did the features of the
16 TerraVision system that you have demonstrated at
17 Magic '94 compare to the features that we saw in
18 the video?

19 A. The same features that was
20 demonstrated live was on the video.

21 Q. And how do the features of the
22 version of TerraVision that you demonstrated at
23 Magic '94 compare to the documents that we
24 walked through?

1 A. The features of TerraVision then
2 was all -- was equivalent to all the papers
3 thanked been published to date.

4 Q. The last question I have for you
5 is from where did the TerraVision system that
6 you demonstrated at Magic '94, where did it get
7 its images from?

8 A. We had multiple ISS servers in
9 Sioux Falls, South Dakota, Lawrence, Kansas --
10 Sioux Falls, South Dakota and Minneapolis
11 Supercomputing Center at Lawrence Kansas.

12 MR. ALMELING: Pass the witness,
13 Your Honor.

14 MR. SPEARS: Before we proceed to
15 cross, might be good for afternoon break.

16 THE COURT: Why don't we take 15
17 minute break and we'll come back. Of course the
18 jury should not discuss the case.

19 (Jury exits.)

20 THE COURT: Thank you. Sit down.
21 Anything before we break.

22 MR. PARTRIDGE: Nothing from the
23 Plaintiff, Your Honor.

24 MR. SNYDER: Nothing from

1 Defendant, Your Honor.

2 (Short recess.)

3 THE COURT: Ready to bring the
4 jury back?

5 MR. SNYDER: Yes, Your Honor.

6 MR. SPEARS: Yes, Your Honor.

7 THE COURT: Someone bringing the
8 jury back?

9 (Jury enters.)

10 MR. SPEARS: Ready?

11 THE COURT: Yep, we're ready.

12 BY MR. SPEARS:

13 Q. Good afternoon, Mr. Lau?

14 A. Good afternoon.

15 Q. This isn't the first time we've
16 met, is it.

17 A. I'm sorry.

18 Q. This isn't the first time we've
19 met, is it?

20 A. No, it is not.

21 Q. In fact, I took your deposition in
22 September of last year?

23 A. Correct.

24 Q. And at that time you were aware

1 that Google was being sued for patent
2 infringement, correct?

3 A. Yes, I was.

4 Q. But at that time you were not
5 aware of whose patent was being asserted against
6 Google?

7 A. Can you -- I'm sorry, say that
8 again.

9 Q. But at that time in September of
10 last year, you were not aware of who owned the
11 patent that was being asserted against Google?

12 A. No, I did not.

13 Q. But you know that now?

14 A. I believe so, yes.

15 Q. Okay. Have you ever read the
16 patent in this case at a high level of detail,
17 if you'll excuse the pun?

18 A. Yes.

19 Q. Okay. You've been hired as a
20 consultant by Google's lawyers to assist them in
21 connection with this lawsuit?

22 A. Yes.

23 Q. And they are paying you \$400 an
24 hour for these services?

1 A. \$450 an hour.

2 Q. Okay. I'd like to ask you some
3 questions about SRI International.

4 A. Okay.

5 Q. SRI International was formed out
6 of Stanford University, correct?

7 A. Yes, it was formerly known as
8 Stanford Research Institute.

9 Q. And if you go to SRI's facilities
10 in Menlo Park, California, you will find
11 placards touting SRI's role in incubating the
12 entire tech industry in Silicon Valley, correct?

13 A. Actually I haven't been back to
14 SRI International since I left.

15 Q. But that's a claim that you have
16 heard made by SRI International?

17 A. Actually no, I haven't actually
18 heard that claim.

19 Q. In any event, SRI International is
20 a fairly sophisticated organization, correct?

21 A. Yes.

22 Q. They do cutting edge research?

23 A. Yes.

24 Q. Some of that research is done

1 under government contracts, correct?

2 A. Yes.

3 Q. In fact, much of that research is
4 done under government contracts?

5 A. That I don't know any more.

6 Q. The fact that research is done
7 under government contracts doesn't forbid SRI
8 from obtaining patents on that research?

9 A. That's correct.

10 Q. Now, so we have SRI International,
11 this very sophisticated research organization in
12 1995, I take it that if there was a graphic
13 application that SRI had developed and that they
14 were very proud of and that they wanted to
15 record for posterity, that they would have had
16 the technology to do that in 1995?

17 A. I'm sorry, repeat the question
18 again.

19 Q. Okay. If SRI International had
20 this graphic application that they developed
21 that they -- and that they were really, really
22 proud of and that they wanted to preserve for
23 posterity, then they would have had the
24 technology to make a record of what that

1 application can do even back in 1995, correct?

2 A. That I'm not a hundred percent
3 sure of, I'm sorry.

4 Q. Okay. So in any event what you
5 describe is the grainy video that was shown to
6 the jury, SRI could have done a lot better than
7 that in 1995 if they'd really wanted to?

8 A. Actually we created the video in
9 1994 and it was not grainy.

10 Q. Okay. So what you're saying then
11 is that SRI International has not preserved a
12 copy of the non-grainy video that was created in
13 1995?

14 A. That I don't know.

15 Q. Okay. If SRI believed that what
16 was depicted in that video was a significant
17 innovation, a significant advance, then wouldn't
18 it seem reasonable that SRI would have made
19 steps to hold on to that decent video?

20 A. That I don't know.

21 Q. In any event, once you and
22 Mr. Leclerc got around to discussing the
23 possibility of filing a patent application on
24 your work, you concluded it wasn't innovative

1 enough to do that?

2 A. We determined that we were
3 building on existing algorithms and techniques.

4 Q. And if you wanted to do that,
5 there were patent lawyers on SRI's staff that
6 would have assisted you in that enterprise;
7 correct?

8 A. Yes.

9 Q. Now, you spoke some of a magic
10 symposium that was held in Lawrence, Kansas in
11 August of 1994; correct?

12 A. Yes.

13 Q. In April of 1994, you went on
14 extended leave from SRI for personal reasons?

15 A. Yes.

16 Q. And I believe you indicated in
17 response to Mr. Almeling that you personally
18 attended that conference in Lawrence, Kansas in
19 August of 1994?

20 A. I'm sorry, I don't remember the
21 names.

22 Q. You indicated in response to
23 Mr. Almeling's question that you attended the
24 Magic 1994 symposium in August of 1994?

1 A. Yes. Sorry.

2 Q. And that was in Lawrence, Kansas?

3 A. Yes, it's in Lawrence, Kansas.

4 Q. That's not true, is it, Mr. Lau?

5 A. That the technical symposium was
6 in Lawrence, Kansas?

7 Q. No, that you attended that
8 symposium?

9 A. It is true, I did.

10 Q. Do you recall giving deposition
11 testimony in connection with a lawsuit styled
12 Skyline Software versus Keyhole?

13 A. Yes.

14 Q. That testimony was given over a
15 multi-day period in June of 2006?

16 A. Yes.

17 Q. You were under oath at that time
18 and swore to tell the truth?

19 A. Yes.

20 Q. I would like to hand out a
21 transcript from that deposition and the
22 pagination is a little wonky which is why we put
23 a tab to direct you to the portion of the
24 transcript that I would like you to look at.

1 And that portion of the transcript appears at
2 page 141. Are you with me?

3 A. Sorry, 141, yes.

4 Q. At line five.

5 THE COURT: Give the witness a
6 moment to look at it.

7 MR. SPEARS: Okay.

8 Q. Can I proceed?

9 A. Yes.

10 Q. At line five of that page you were
11 asked, "At the bottom of that page there is a
12 reference to a TerraVision videotape made by
13 Dr. Leclerc for the Magic Technical Symposium in
14 August. Do you have recall a videotape being
15 made of the TerraVision project?"

16 Can you read aloud your answer?

17 A. "Yeah, the reasons yes, Yvan and I
18 made the tape because at the time I had just
19 come back from medical leave and I was unable to
20 travel during that time period, so in order to
21 have a demonstration in order to talk about it,
22 there was a videotape that was created and was
23 presented at the conference."

24 Q. I am going to hand out the second

1 volume of that deposition. And once again for
2 convenience, we have flagged the page that I am
3 interested in which we are addressing your
4 attendance at that conference in Lawrence,
5 Kansas. Could you turn to page 168, line 24.
6 Are you there?

7 A. Yes, I am.

8 Q. And you were asked: "When
9 approximately was this video prepared?"

10 What was your answer?

11 A. "In 1994, summer of 1994."

12 Q. And the very next question at line
13 one of page 169, "What was the purpose of this
14 video?"

15 What was your answer?

16 A. "The purpose of the Magic video
17 was to demonstrate TerraVision at the Magic
18 Technical Symposium because they had -- I was
19 partially on medical leave at that time. I was
20 unable to attend the symposium and so the
21 videotape was created in order to be able to
22 demonstrate the TerraVision system in my
23 absence."

24 Q. And your testimony in 2006 was

1 that did you not attend that symposium in
2 Lawrence, Kansas?

3 A. Yes, in 2006.

4 Q. And 2006 was nine years closer to
5 the events in question that the testimony that
6 you have just given today?

7 A. Yes.

8 Q. All right. Now, let's talk some
9 about the Siggraph 95 conference in Los Angeles.
10 That's a conference that's attended by people
11 who are interested in computer graphics and
12 visualization?

13 A. The Siggraph conference?

14 Q. Yes. If you're interested in
15 networking there are other conferences that you
16 go you can go to; correct?

17 A. Yes, I attend Siggraph.

18 Q. During the course of that
19 conference, you would from time to time
20 demonstrate TerraVision to folks who are walking
21 around the conference hall; correct?

22 A. Yes.

23 Q. And if I were one of the folks
24 walking around the conference hall, one of the

1 things that I would see would have been a less
2 grainy version of the video that you just showed
3 the jury; correct?

4 A. Yes.

5 Q. And if I followed, if I asked you
6 questions about can I see some source code, can
7 I see this or that, you would have responded to
8 those questions?

9 A. Yes.

10 Q. But if those types of questions
11 were not asked, the only other things that you
12 would demonstrate would be the variability of
13 this viewing frustum that you talk about and
14 something of the network performance; correct?

15 A. No, that was not the only thing
16 that I would demonstrate.

17 Q. I would like to show -- let's go
18 to the deposition that you gave in connection
19 with this. And I would direct your attention to
20 page 177. No, I'm sorry, I want to take you to
21 page 223.

22 A. I'm sorry, I don't see the page
23 numbers on here.

24 THE COURT: The page number is not

1 on it.

2 A. It starts at 337.

3 Q. At 337?

4 A. Or actually at 336.

5 Q. I handed you the wrong document.

6 Sorry. I'll move on, Mr. Lau.

7 Now, you spoke some about some
8 CD-ROMs and you were shown a CD-ROM during the
9 course of your examination. Do you recall that?

10 A. Yes.

11 Q. Now, do you recall that, in fact,
12 there were three CD-ROMs prepared for Siggraph
13 95?

14 A. That I don't recall the exact
15 number.

16 Q. You don't know how many were
17 prepared -- you don't recall that there was a
18 preceding CD-ROM and two media CD-ROMs?

19 A. I believe there was a preceding
20 CD-ROM.

21 Q. And at some point you believe that
22 you were given a CD-ROM at the conference?

23 A. Yes.

24 Q. Just one CD-ROM?

1 A. That I don't remember.

2 Q. The CD-ROM that you were shown by
3 Google's lawyers, that was not a CD-ROM that you
4 personally can say came from your records?

5 A. I'm sorry?

6 Q. The CD-ROM that Google's lawyers
7 showed you, that was not a CD-ROM that came from
8 your own personal records?

9 A. I do not believe so.

10 Q. In fact, you had no idea where
11 Google's lawyers obtained that CD-ROM from?

12 A. No.

13 Q. Now, the one thing that we do know
14 about the CD-ROM that you were given in Siggraph
15 1995 is that you don't recall if there was any
16 information about ACI TerraVision on that
17 CD-ROM?

18 A. You mean Siggraph 95?

19 Q. Siggraph 95.

20 A. Can you repeat the question?

21 Q. Whatever you received at Siggraph
22 '95, you do not recall seeing a CD-ROM with any
23 information about ACI TerraVision?

24 A. I do recall seeing a CD-ROM.

1 Q. All right. I am going to hand you
2 a copy of your deposition transcript from this
3 case, and I would like to direct your attention
4 to page 177, lines 19 through 25.

5 MR. ALMELING: Your Honor, this is
6 being displayed to the jury, and the witness has
7 not had an opportunity to review the transcript.

8 THE COURT: Give the witness some
9 time to review it. Do you have copies of this
10 for the rest of us?

11 MR. SPEARS: I don't seem to have
12 copies of this.

13 THE COURT: Before you question
14 the witness about it, I would like to see it,
15 please.

16 MR. SPEARS: Okay.

17 THE COURT: Let him look at it
18 first.

19 MR. SPEARS: Understood.

20 Permission to approach.

21 THE COURT: Yes.

22 Okay. Does Google have copies of
23 this?

24 MR. ALMELING: We do not, Your

1 Honor.

2 THE COURT: They're going to need
3 copies of it.

4 MR. SPEARS: Can we put it up on
5 the screen?

6 THE COURT: Yes.

7 MR. SPEARS: Okay.

8 BY MR. SPEARS:

9 Q. So you were asked at line 19, do
10 you recall if there was information about
11 Art+Com's T-Vision or about Art+Com on that
12 CD-ROM? What was your answer?

13 A. I responded, "That I do not
14 remember."

15 At the time of when I took this
16 deposition.

17 MR. SPEARS: Pass the witness.

18 REDIRECT EXAMINATION

19 BY MR. ALMELING:

20 Q. A question about Magic 1994.
21 Counsel showed you a deposition that you gave in
22 2006 about whether you were in attendance and
23 you answered the question today, so let me ask
24 it simply. Were you in attendance at Magic 1994

1 in Lawrence, Kansas?

2 A. Yes, I was.

3 Q. How do you know that for sure?

4 A. Because subsequent to the 2006
5 deposition, I actually have used Quicken, which
6 is a financial piece of software. I have been
7 recording my credit card and bank transactions
8 all the way back to 1989. So since 2006 to
9 today, I went back to 1994, August of 1994 and I
10 saw the credit card transactions for a hotel in
11 Lawrence, Kansas, a hotel in Kansas City, and
12 also a rent-a-car in Kansas and also for entries
13 for restaurants in that area.

14 Q. And what do those receipts and
15 entries suggest to you?

16 A. That I actually was at Magic 94.

17 MR. ALMELING: No further
18 questions, Your Honor.

19 THE COURT: So if there are no
20 further questions, we'll see if the jury has any
21 questions for this witness.

22 (Side-bar discussion:)

23 THE COURT: The question is who
24 did you speak with from Art+Com at Siggraph 95?

1 MR. SPEARS: That's fine.

2 MR. ALMELING: Likewise.

3 (End of side-bar.)

4 THE COURT: Mr. Lau, one of the
5 jurors has a question which I'm going to ask
6 you.

7 Who did you speak with from
8 Art+Com at Siggraph 95?

9 THE WITNESS: I spoke with -- I
10 don't remember all their names, but there was at
11 least three of them that were there at Art+Com
12 -- I mean at Siggraph 95.

13 THE COURT: Do you remember the
14 names?

15 THE WITNESS: No, I do not.

16 THE COURT: Thank you. Any
17 further questions?

18 Thank you, Mr. Lau. You're
19 excused.

20 MR. ALMELING: Your Honor, we
21 would like to move in several exhibits.

22 DTX 1023, DTX 1037. DTX 1087.
23 DTX 1088. DTX 1193. And DTX 1036.

24 MR. SPEARS: No objection.

1 THE COURT: Without objection,
2 these exhibits are admitted.

3 MR. SNYDER: Defendant Google
4 calls as its next witness Dr. Michael Goodchild.
5 Dr. Goodchild is an expert in the field of
6 geographic information systems with more than
7 forty years of experience. He's going to
8 testify to his opinion that Google Earth does
9 not infringe the '550 patent and that the patent
10 is invalid.

11 Mr. Williamson will question
12 Dr. Goodchild.

13 THE CLERK: Please state and spell
14 your full name for the record.

15 THE WITNESS: Michael Frank
16 Goodchild, M-I-C-H-A-E-L, F-R-A-N-K,
17 G-O-O-D-C-H-I-L-D.

18
19 MICHAEL FRANK GOODCHILD, PH.D.,
20 the deponent herein, having first
21 been duly sworn on oath, was
22 examined and testified as follows:

23 MR. WILLIAMSON: May I proceed,
24 Your Honor?

1 THE COURT: Yes.

2 DIRECT EXAMINATION

3 BY MR. WILLIAMSON:

4 Q. Good afternoon, Dr. Goodchild.

5 You and I know each other, but for the benefit
6 of the jury, I'm Brett Williamson and I'm one of
7 the attorneys here for Google in the case
8 defending it against the allegations by ACI.

9 Dr. Goodchild, could you please
10 introduce yourself to the jury?

11 A. Good afternoon. I'm Dr. Michael
12 Goodchild.

13 Q. Dr. Goodchild, what do you do for
14 a living?

15 A. I retired in 2012 from the
16 University of California Santa Barbara where I
17 was a professor of geography.

18 Q. Do you continue to hold academic
19 appointment?

20 A. I do. I'm a Emeritus Professor at
21 UC Santa Barbara. I'm also an affiliate
22 professor at the University of Washington. Both
23 of those are honorary and unpaid positions.

24 Q. Dr. Goodchild, did you assist in

1 preparing a slide of some of your academic and
2 educational background?

3 A. I did.

4 Q. And Mr. Ang, why don't we put up
5 the first slide.

6 Dr. Goodchild, at the top of this
7 slide it list your position as Professor of
8 Geography at UC Santa Barbara. You began
9 teaching there in 1989?

10 A. Yes.

11 Q. What positions or appointments at
12 UC Santa Barbara did you hold?

13 A. Professor of Geography. I was
14 also director of various research centers from
15 time to time.

16 Q. And you were the director of the
17 Center for Spatially Integrated Social Science;
18 is that correct?

19 A. Yes.

20 Q. Have you held any other teaching
21 positions before UC Santa Barbara?

22 A. Yes. For twenty years before that
23 I was a professor at the University of Western
24 Ontario.

1 Q. Can you describe for the jury your
2 personal educational background?

3 A. I have a BA in physics from
4 Cambridge University 1965. And then a Ph.D. in
5 geography from McMaster University in Canada in
6 1969.

7 Q. In what particular field have you
8 focused your research and teaching activities
9 since you began professionally?

10 A. For over forty years my focus has
11 been on geographic information systems.

12 Q. Is that field sometimes referred
13 to as GIS?

14 A. Yes.

15 Q. Have you published any books or
16 papers in the GIS field?

17 A. I have published something over
18 550 papers, and something over fifteen books on
19 the topic.

20 Q. I'm holding up a very heavy
21 two-volume treatise titled Geographical
22 Information System. Is this one of your books,
23 these two volumes?

24 A. Yes.

1 Q. How is that volume used in the
2 field?

3 A. It was published in 1991. It has
4 about 800,000 words. It was published as a
5 state of the art review of GIS at that time.

6 Q. Have you received any honors for
7 the work you have done in the GIS field?

8 A. Yes. In the US I have been
9 elected to the National Academy of Sciences and
10 the American Academy of Arts and Sciences. In
11 Canada I have been elected to the Royal Society
12 of Canada. In the UK I have been elected to the
13 Royal Society. I have also received a gold
14 medal from the World Geographical Society. And
15 in France I received the Prix Vautrin Lud, which
16 is in some people's view the equivalent of the
17 Nobel Prize in geography.

18 Q. Have you taught any courses in the
19 area of geographical information systems?

20 A. Yes. My teaching since the early
21 '70s has been in this field.

22 Q. As part of your work on the
23 faculty of these institutions, did you also do
24 independent research?

1 A. Yes.

2 Q. And have you worked on any
3 research projects that involved the use of
4 digital imaging in connection with the display
5 of geographical information?

6 A. Yes. That really is what my
7 research has all been about from the early
8 1970's.

9 Q. So let's go to the next slide.
10 And I'm going to direct you, Dr. Goodchild, to
11 what's been marked as DTX 1198. Do you
12 recognize the title of this paper on the slide
13 that's being displayed?

14 A. Yes, I do.

15 Q. And what is this paper?

16 A. This is a paper published in April
17 '91, and it describes some work that my lab was
18 doing in 1990, 1991. And we were very excited
19 at that time by the emergence of some 3D
20 capabilities in workstations.

21 You have heard a lot about Silicon
22 Graphics at this trial. We were actually
23 working with an IBM machine which had many of
24 the same characteristics and we were interested

1 in developing the ability to place a globe on
2 the screen and allow the user to spin the globe
3 and zoom in to finer resolution.

4 Q. I want to proceed now to the
5 opinions that you have developed based upon the
6 work you have done in the case.

7 First of all, what subjects will
8 you be testifying about today? Have you
9 prepared a slide to summarize those?

10 A. Yes. So essentially two sets of
11 opinions. The first set having to do with
12 infringement and the question of whether Google
13 Earth infringes the '550 patent. And the
14 question of whether the '550 patent is invalid.

15 Q. And I'm going to get into the
16 details of your opinions, of course, this
17 afternoon. But just so the jury understands
18 what you'll be talking about, have you reached
19 an opinion as to whether Google Earth infringes
20 the '550 patent?

21 A. Yes, I have. My conclusion is
22 that it does not.

23 Q. Have you reached an opinion based
24 on your work in the case as to whether or not

1 the '550 patent is invalid?

2 A. Yes.

3 Q. What's that conclusion?

4 A. It is invalid.

5 Q. In doing your work to form your
6 opinions that you're going to talk about this
7 afternoon, can you tell the jury generally the
8 source of information that you reviewed?

9 A. We can start with the '550 patent
10 itself and its precursors. It was the third
11 issue of essentially the same patent. And also
12 the file history which is the documentation that
13 the patent office maintains on its decisions in
14 the case.

15 I have also reviewed a large
16 amount of published material dating from the
17 date of application of the patent. And I have
18 consulted the source code of Google Earth and
19 also had conversations with Google's engineers.
20 I've also considered the testimony given in
21 various depositions and at this trial.

22 Q. Have you reviewed Dr. Castleman's
23 reports that he prepared in connection with the
24 opinions that he presented at trial yesterday?

1 A. Yes, I have reviewed the various
2 reports and I also of course heard
3 Dr. Castleman's testimony.

4 Q. It's a good time to ask you, have
5 you been here in Court since the beginning of
6 the trial to listen to the testimony of the
7 witnesses?

8 A. Yes, I have.

9 Q. Including Dr. Castleman's
10 examination?

11 A. Yes.

12 Q. And did you also review some of
13 the Court's decisions relating to, for instance,
14 the interpretation or construction of some of
15 the claim terms?

16 A. Yes. There are some very
17 important additions by the Court as to what
18 various terms in the claims mean, in the claims
19 of the '550 patent.

20 Q. Did you use those claim
21 constructions in developing your opinions?

22 A. Yes.

23 Q. I'm going to show you what's been
24 marked as PTX 4. And I believe it's on the next

1 slide. You mentioned having reviewed the file
2 history. Is this the first page of the file
3 history of the '550 patent?

4 A. Yes, it is.

5 Q. Did you rely on your review of the
6 file history of the '550 patent in reaching your
7 opinions that you're presenting today?

8 A. Yes, it was one of the many
9 sources of information.

10 Q. Dr. Goodchild, have you ever used
11 Google Earth?

12 A. Yes, I have.

13 Q. When was the first time you did
14 that?

15 A. I first encountered it in the form
16 of Earth Viewer, the precursor, that if I
17 remember correctly was in very early 2002. I
18 was very excited by it. I immediately purchased
19 a copy. And I began using it in my teaching and
20 making presentations, and in my research.

21 Q. Have you again reviewed the Google
22 Earth product in connection with developing the
23 opinions that you're presenting to the jury
24 today?

1 A. Yes.

2 Q. About how many hours have you
3 spent on your investigation that led to you
4 presenting the opinions today?

5 A. Until the end of April I had spent
6 215 hours.

7 Q. Are you being compensated for the
8 work that you've done in this case?

9 A. Yes, I am. Google is being billed
10 \$500 an hour for my time. There is a referral
11 agency involved which takes a hundred dollars,
12 so I receive 400.

13 Q. Does the compensation agreement
14 that you have depend in any way on the outcome
15 of this case?

16 A. No, not in any way.

17 Q. Doctor Goodchild, you've talked
18 about GIS. What specific technologies within
19 the GIS field do you believe are relevant to
20 your opinion about the '550 Patent and whether
21 or not it relates to the Google Earth product?

22 A. Well, there are a number of
23 technologies. There's, as you've heard many
24 times, the technology of the quadtree. There's

1 the technology of remote access to data bases.
2 So there are numerous technologies, including
3 the technologies of computer graphics which
4 determine how the images are actually displayed
5 on the computer screen.

6 Q. With regard to this idea of how
7 these images are displayed to the computer
8 screen, have you prepared an initial
9 demonstration to explain to the jury this
10 general field?

11 A. Yes, I have.

12 Q. Can we go to the next slide. Can
13 you explain your demonstration for the jury,
14 Doctor Goodchild?

15 A. So inevitably some of what I'm
16 going to show you you've seen before, so I hope
17 you will excuse that. So we're looking at the
18 part of the northeastern United States,
19 including all of Delaware, all of New Jersey,
20 part of the Atlantic Ocean, part of Lake Erie.
21 And let's suppose our interest is in Wilmington,
22 but if we were to bring a magnifying glass to
23 that image we would see something very blurry
24 and you might recognize the Delaware River, but

1 not much else.

2 Q. Before the time of the '550
3 Patent, were there ways to adjust the image
4 resolution to match the user's desire to have a
5 finer viewpoint of the image?

6 A. Oh, yes. And this idea of going
7 to finer resolution dates way back in the
8 history of GIS.

9 Q. Let's go to the next slide. And
10 I'm going to ask you to refer to what we've
11 marked as DTX-1076. I believe it's in evidence.
12 And this is a patent from 1987. Do you
13 recognize this exhibit?

14 A. Yes.

15 Q. And have you reviewed it as part
16 of your work in this case?

17 A. Yes.

18 Q. And September 25th, 1987 is the
19 year this patent was filed. Did you review the
20 various disclosures and information in this
21 patent as part of your opinion?

22 A. I did.

23 Q. Let me direct you to Page 6 of
24 Exhibit 1076. What does this part of the patent

1 explain?

2 A. So this part of the patent
3 illustrates the concept of, as you've heard many
4 times, the quadtree. And this Figure 11A, which
5 comes from the patent, shows an initially coarse
6 image over a large area being subdivided first
7 into four sections and then subdivided again
8 into four more sections and then again into
9 four. So that if we had carried out that
10 subdivision over the entire square area, we
11 would have 64 subdivisions at our finest level
12 of resolution.

13 Q. How would this subdividing process
14 that you described from this global mapping
15 patent apply to the image that you showed in
16 your earlier demonstration?

17 A. So let's put it on top of that
18 image. And we can now, if we superimpose the
19 quadtree and we've arranged it so that one of
20 those 64 smaller sections lies exactly on
21 Wilmington, and if we now look at the finer
22 resolution data which is available for that
23 smaller section, there's the original magnifying
24 glass, if you like, and the lower image shows

1 the much finer resolution. And now you can
2 clearly see the Delaware River, you can see the
3 Christina River, you can see Brandywine Creek,
4 you can see downtown Wilmington.

5 Q. Let me move now to the '550
6 Patent. And you've reviewed the '550 Patent, I
7 take it, in detail as part of your opinion?

8 A. Yes, I have.

9 Q. On this slide it's Claim 1 of the
10 '550 Patent and can you generally describe for
11 the jury's benefit your understanding of what
12 Claim 1 talks about?

13 A. Yeah, it's about creating a
14 pictorial representation of space-related data,
15 which essentially means geographic information
16 of a selectable object, in this case the earth,
17 and this pictorial representation will present a
18 field of view of the object by an observer and
19 in this case, in this two figures, Figure 9 and
20 Figure 11 from the patent, you can see the earth
21 as it would be seen from space. So what we're
22 trying to do essentially is simulate how the
23 earth looks from space.

24 Q. Is that process then described in

1 these various steps?

2 A. Yes, those are the six steps of
3 the '550 Patent, sorry, seven steps of the '550
4 Patent that describe exactly how this is done.

5 Q. If we turn to the first step, Step
6 A, what is that explaining?

7 A. So this is the principle of the
8 distributed data sources and so in my
9 illustration here I've taken Figure 1 from the
10 patent and I've put three servers on it and also
11 the user's workstation in the bottom right. And
12 what the user is going to do is request data
13 from that plurality of spatially distributed
14 servers.

15 Q. Did the Court issue any
16 constructions of claims that relate to Step A
17 that you used in your opinions?

18 A. Yes, it did. Here are the two
19 constructions that the Court issued.

20 Q. I won't ask you to read those, but
21 you considered those in your opinion?

22 A. Yes.

23 Q. Let's move onto Step B. What is
24 Step B talking about?

1 A. So Step B says that you first
2 determine the field of view from the imagined
3 user's position, the virtual camera, then Step C
4 says you request data for that field of view.
5 Those are the red arrows going out to the
6 servers. Step D says the servers provide data
7 which is now centrally stored that relates to
8 the field of view and then finally you represent
9 the data on the screen in Step E.

10 Q. And did the Court construe any
11 terms that relate to Steps B through E that you
12 relied on?

13 A. Yes. So here are two
14 constructions by the Court of the specific
15 meaning of two of those claims.

16 Q. And then turning to Steps F and G.
17 I know the jury has heard a little bit of
18 testimony about those during the course of the
19 trial. What do Steps F and G talk about in the
20 '550 Patent?

21 A. So Step F describes how we do this
22 process of course-defined zoom. And it begins
23 by dividing the area into these subsections, in
24 this case into four, then requesting high

1 resolution data for each of the smaller
2 sections, then storing the high resolution data
3 and then representing the data in a pictorial
4 representation. So there's four substeps of
5 Step F.

6 Q. Now, in your opinion, does the
7 global mapping patent that we saw earlier in
8 1997 describe one of the ways to do this
9 dividing process?

10 A. Yes.

11 Q. Did the Court issue any
12 construction is on claim terms F and G that
13 you've considered in your opinion?

14 A. Yes. Here they are. So the Court
15 construed the term image resolution and also the
16 longer section that you see there.

17 Q. Now, you've discussed Claim 1.
18 And do you understand in developing your opinion
19 that ACI is asserting at this trial three
20 additional dependent claims of the '550 Patent?

21 A. Yes.

22 Q. And those are claims 3, 14 and 28.
23 Have you reviewed those claims as well?

24 A. Yes.

1 Q. Okay. And in forming your
2 opinions, did you consider the Court's
3 construction of terms in those dependent claims?

4 A. Yes.

5 Q. Now, let's go to the next slide
6 and remind the jury of the opinions we're going
7 to move to. I want to first ask you about the
8 first of your two, I think you described them as
9 sets of opinions, and that is that Google Earth
10 does not infringe, that Earth uses a
11 fundamentally different method than the '550
12 Patent. What Google Earth products did you
13 consider in reaching that opinion?

14 A. Well, I think for the purposes of
15 this trial we've already seen that the Google
16 Earth products can be grouped into three
17 categories, and I followed that suggestion in
18 this work.

19 Q. And have you listed them in a
20 slide?

21 A. Yes. You'll notice the order is a
22 little different here. So what I've called 1, 2
23 and 3, I think that Doctor Castleman called 2, 1
24 and 3, but this order here is to me a little

1 more convenient because it's essentially
2 chronological. So Group I was developed first,
3 then Group II and then Group III.

4 Q. What types of evidence relating to
5 these Google Earth products and the way that
6 they work did you consider in reaching your
7 opinion?

8 A. As I said before, I examined the
9 source code, I talked with Google engineers to
10 confirm my interpretation of the source code and
11 gathered other information and I also reviewed
12 various documents that Google has published from
13 time to time about Google Earth.

14 Q. Why is source code relevant to
15 your opinion regarding non-infringement?

16 A. Because source code essentially
17 defines what the computer does. It's the set of
18 instructions to the computer, and so it's the
19 ultimate authority on what the computer is
20 actually doing.

21 Q. Did you also review Doctor
22 Castleman's opinion regarding how Google Earth
23 works?

24 A. Yes, I did.

1 Q. Are there parts of Doctor
2 Castleman's opinion that you disagree with?

3 A. Yes.

4 Q. So let's turn back to the global
5 mapping patent we looked at before, and it's use
6 of quadtrees and subdivisions here. Does Google
7 Earth use the concept of a tree or a quadtree in
8 its product?

9 A. Yes, it does.

10 Q. Do you have a demonstration of how
11 this use of quadtrees and subdivisions would
12 work in the Earth product?

13 A. Yes, I do.

14 Q. So what are we seeing here on the
15 left-hand side of this next slide?

16 A. So what we're seeing on the left
17 here is a tree. At the top, the A level is the
18 courses image and then as we move down the tree
19 to the B level, the C level, the D level, the
20 pieces of the tree are smaller but they get more
21 refined, they get more detailed. And you've
22 heard these images talked about in several ways.
23 You can talk about them as the nodes in the tree
24 or we can talk about them as tiles, because

1 essentially they form a mosaic which covers the
2 area.

3 Q. Now, when one uses the Google
4 Earth product, are all these tiles or images
5 actually placed onto the user's computer or cell
6 phone?

7 A. No. And this of course is one of
8 the big problems here. One of the big
9 challenges is that there isn't room on the
10 user's computer or cell phone and so we store
11 them in the Keyhole server and access them as
12 needed and as appropriate.

13 Q. So if a person who decides to use
14 Google Earth wants to see a particular image,
15 how does the computer or the cell phone decide
16 which image to request from the Keyhole server?

17 A. So this is a little bit like a
18 menu at a restaurant, because with a menu what
19 you have is a description of the food items, you
20 don't actually have the food items. And what we
21 have here in the metadata tree is a description
22 of what each element of the metadata tree might
23 give you. We don't actually get the data until
24 we need to. So this is all about delaying

1 requesting the data until we are reasonably sure
2 what data we need, just as in a restaurant, you
3 delay getting the food until you know what you
4 want from the menu.

5 Q. I'm sorry, what information about
6 an image is described in this metadata or in
7 these items in the menu?

8 A. There are quite a few items, but
9 there are two really that are relevant here.
10 One is the resolution of each of those elements
11 in a metadata tree and as we go down the tree
12 the resolution gets higher and higher. And then
13 the second is the area covered or in other words
14 the viewpoint of that tile in the metadata tree.

15 Q. How did the Google Earth products
16 use this metadata tree to display images at the
17 level of detail that the user wants?

18 A. So Google Earth uses this process
19 of traversal where we start with a root node and
20 work through the tree, examining the metadata to
21 decide which of the tiles in the metadata tree
22 we're going to request from the server.

23 Q. Did you review Google documents
24 that the company uses in its business to help

1 confirm that Google Earth uses a metadata tree?

2 A. Yes, I did.

3 Q. Let's move on to the next slide.
4 It's a page from PTX-0075, which is in evidence.
5 Is this one of the documents that describe
6 Google Earth's use of metadata trees?

7 A. Yes.

8 Q. That Google keeps in its files?

9 A. Yes. You can see the relevant
10 terms here. You can see the term traverse, this
11 is how Google traverses a metadata tree. You
12 can see the term metadata and the distinction
13 between metadata, the menu, and node data, the
14 food items. And you can also see that for the
15 purposes of convenience, that diagram uses a
16 binary split into two instead of a split into
17 four. It makes it simply easier to see.

18 Q. And will you be using that same
19 binary tree for some of your demonstrations?

20 A. Yes, I will.

21 Q. Did you confirm that traversal of
22 a metadata tree is the method used in all
23 versions of Google Earth that you reviewed?

24 A. Yes, I did.

1 Q. So let me turn now to your
2 non-infringement positions and we'll go here
3 first. And first, as a general matter, Doctor
4 Goodchild, what is your understanding of the
5 requirements of infringement, that is at a high
6 level, about the performance of the element of a
7 claim?

8 A. So at a high level, the law
9 establishes that in order to infringe it's
10 necessary that the offending products follow
11 each and every step of the claim.

12 Q. And you've listed two reasons why
13 in your opinion Google Earth does not perform
14 every step of Claim 1 of the '550 Patent; is
15 that correct?

16 A. Yes.

17 Q. Okay. What is the first reason?

18 A. This focuses on Step F and the
19 problem here is that Google Earth does not, as
20 required by the '550 Patent, does not request or
21 display each of the smaller sections after the
22 division step.

23 Q. What's the second reason?

24 A. And the second refers to Step G

1 and Google Earth does not repeat Step F as
2 required by Step G.

3 Q. So on this slide in your
4 testimony, you're right now just talking about
5 Claim 1. In your opinion, does Google Earth
6 infringe any of these dependent claims, 3, 14 or
7 28?

8 A. Each of the dependent claims of
9 course depends on Claim 1, and so if Google
10 Earth does not infringe Claim 1, it
11 automatically does not infringe the dependent
12 claims.

13 Q. So Doctor Goodchild, for the first
14 reason that you have concluded Google Earth does
15 not infringe, what do you mean by Google Earth
16 does not request, store and represent each of
17 the smaller sections?

18 A. So in executing Step F we first
19 divide. And that's this idea with the quadtree
20 of dividing a larger section into its children,
21 into its four children and then Step F requires
22 that the requesting substep go to each of the
23 smaller sections. So each of the smaller
24 sections must be requested. Each of the smaller

1 sections must be stored and represented in the
2 pictorial representation.

3 Q. Have you helped prepare an
4 animation to illustrate how this requirement of
5 each of the smaller sections works under the
6 '550 Patent?

7 A. I have.

8 Q. Can you tell us what happens in
9 this animation?

10 A. And of course the point here is
11 that what I'm going to demonstrate is how
12 different the '550 requirements are from the way
13 Google Earth operates. So we're going to look
14 at how the '550 Patent would operate and here is
15 the root node A1 and we begin by deciding that
16 it is not a sufficient resolution, we don't
17 think it's a good enough image to display, the
18 user wants something more detailed and so we
19 begin Step F by dividing. And those red arrows
20 denote dividing into B1 and B2.

21 Q. And what happens next in the '550
22 Patent?

23 A. Then Step F requires us to move to
24 the next step, which is requesting higher

1 resolution spatially related data for each of
2 those smaller sections, so B1 and B2 must be
3 requested, they must be stored centrally and
4 then represented.

5 Q. And just so we're clear, because I
6 know you have a couple of other animations
7 similar, you describe the red arrows as in your
8 demonstration depicting the dividing step; is
9 that correct?

10 A. Yes.

11 Q. And then we saw the nodes where
12 tiles B1 and B2, they were empty and then
13 surrounded by yellow and what does that refer
14 to?

15 A. That refers to the requesting of
16 the contents of that tile in the metadata.

17 Q. And then when they turn orange,
18 what did that refer to?

19 A. That referred to the fact that the
20 data for B1, the actual image data has now been
21 retrieved back at the user's computer and is now
22 being represented on the screen.

23 Q. And then what happens in Step G?

24 A. So Step G then says well,

1 depending on two conditions, if you still don't
2 have good enough resolution and if there's a
3 better resolution available, in other words
4 there's layers below this in the tree, then you
5 repeat Step F. So let's repeat Step F with
6 respect to B1, we divide B1, we request data for
7 C1 and C2, we wait for that data to come back to
8 the user's computer, we then store it locally
9 and then we represent it.

10 Q. What happens under the '550 Patent
11 if the C1 and C2 smaller sections aren't at a
12 sufficient level of detail?

13 A. Then we repeat again. And so
14 let's divide C1 into D1 and D2, request, store
15 and represent and then go perhaps to C2, divide,
16 request, store and represent and so on.

17 Q. Now, what happens if D1 and D2 are
18 at a sufficient level of detail at least
19 according to the operation of the '550 Patent?

20 A. Then G says we now have the best
21 data available for D1 and D2, but we don't yet
22 have the best data available for C1 so we go
23 back and repeat -- I'm sorry, for C2. Go back
24 and repeat for C2 and that gives us D3 and D4

1 and so on until we've completed the entire tree.

2 Q. Now, you explained how the process
3 worked for the B1 parent node to its C1 and C2
4 parent nodes and the C1 parent node to its D1
5 and D2 parent nodes, correct?

6 A. Yes.

7 Q. Does the '550 Patent require that
8 that process wait until its done at the same
9 level on the other side of the tree?

10 A. Not necessarily. Depends on the
11 ending condition there. So we might have run of
12 good enough data as we went do you know another
13 branch of the tree.

14 Q. Now, have you prepared a similar
15 animation that shows how the operation of the
16 '550 Patent's method would look if we were
17 actually operating this with a computer screen?

18 A. Yes.

19 Q. And can you take us through this
20 demonstration as it depicts each of the smaller
21 sections requirement of Claim 1 of the '550
22 Patent?

23 A. So here's A1 on the screen. It's
24 not very -- A 1. /S grainy, so let's /TKEUFPD

1 it, execute Step F, divide, request, store and
2 represent. And so both halves of the screen now
3 have better resolution. But that's not good
4 enough, so we go to B1, divide it again,
5 request, store and represent and now the two
6 quarters corresponding to C1 and C2 have gotten
7 better, but that's still not good enough, so we
8 do the same --

9 A. So we do the same, we repeat for
10 C1 to get D1 and D2, and we get now better
11 resolution. And eventually when we finish the
12 whole process, we will have the desired
13 resolution for the entire screen.

14 Q. Based on your investigation, is it
15 your view that Google Earth, or whether or not
16 Google Earth requests each of the image sections
17 within the field of view as set forth in the
18 '550 patent, step F?

19 A. No, the process used by Google
20 Earth is very different.

21 Q. Have you reviewed and assisted in
22 preparing an animation that describes how
23 Google's method works?

24 A. Yes, I have.

1 Q. The jury earlier heard from one of
2 the engineer product managers from Google, Peter
3 Birch. Were you in the courtroom at the time?

4 A. I was.

5 Q. Is this a similar demonstration to
6 the one Mr. Birch used?

7 A. It is. Essentially he was making
8 the same point. He was describing how Google
9 Earth works. My purpose here is to compare how
10 Google Earth works to the '550 patent.

11 Q. Did you confirm that it depicted
12 the operation of the Google Earth products as
13 you understood it based on your review of the
14 various documents and source code?

15 A. Yes, all three groupings of the
16 Google Earth products.

17 Q. And did you do some additional
18 material in this animation other than what we
19 saw from Mr. Birch?

20 A. I don't think so.

21 Q. What does -- well, why don't you
22 just take us through the process, your
23 understanding having done the investigation to
24 review the Google process how it works?

1 A. Just to remind the jury, so we
2 first begin traversing the metadata tree. And
3 that if you remember was the set of blue arrows.
4 And every tile or node that we visit gets put
5 into a list.

6 So we are dividing, but we're not
7 requesting and storing and representing anything
8 at this stage. We traverse the entire metadata
9 tree and Mr. Birch talked about the importance
10 of speed and doing that and how quickly that can
11 be done.

12 Q. Somehow it started over again.
13 Let's stop the demonstration there. There has
14 been a number of the nodes that have been
15 outlined in blue. Is that the result of the
16 traversal process?

17 A. Yes.

18 Q. So what happens after traversing?

19 A. Well, you'll notice that to this
20 point nothing has been requested, nothing has
21 been stored, nothing has been represented. We
22 divided as step F requires, but we have not done
23 the rest of step F. So the next step is to
24 prioritize the list. And to do this on the

1 basis of the desirability of retrieving
2 particular tiles from the server.

3 Q. Why does the Google Earth system
4 prioritize this list after the traversal?

5 A. Because at this point we basically
6 know what we want. We know we want D1 through
7 D8 because those are the fine resolution data
8 that are going to satisfy the user. So we put
9 them first in the list and start retrieving them
10 first.

11 Q. Which versions of Earth use a
12 prioritization process?

13 A. All of them. Although there are
14 differences between the criteria used.

15 Q. What happens next after the
16 prioritization of the list?

17 A. So now it's finally the requesting
18 can begin. So if you'll remember this is still
19 part of step F in the patent. And so D1 through
20 D8 have been requested, B1 has been requested.
21 But as Mr. Birch described this morning, we've
22 also ended up with B1. And this is in part a
23 quirk of the internet that it's not all that
24 predictable. And in part it's because Mr. Birch

1 referred to various actors I think he called
2 them, which go out and retrieve data and it's
3 entirely possible that they will retrieve data
4 out of sequence.

5 Q. Based upon your review of the
6 source code, did you agree with Mr. Birch's
7 description of the way that the parallel
8 processes worked to have people go out, I think
9 he used an analogy of several people at the
10 supermarket getting different things?

11 A. Yes.

12 Q. What happens next in the Google
13 Earth product?

14 A. So far we have requested, you can
15 see now the various tiles are starting to show
16 up back at the user's computer, we have got D1,
17 we have stored it and represented it, and if we
18 allow this process to continue, essentially we
19 will eventually end up with all of the D titles
20 and we'll end up with the image we want.

21 Q. Now, some of these tiles are
22 showing based upon your description as not
23 having data requested and, therefore, there is
24 no image data on the tree. Is that the

1 conclusion that you reached about Google Earth
2 not requesting storing representing each of the
3 smaller sections?

4 A. Yes.

5 Q. And how would you display or how
6 would you explain why in this process say, for
7 instance, C3 and C4 never had data even
8 requested?

9 A. Because with this process, which
10 began with traversal, we have been smart enough
11 to identify the ones we really want. And not
12 have to retrieve all of the intermediate ones,
13 so we have been able to skip certain nodes or
14 tiles.

15 A key issue here is that remember
16 that in this demonstration, I'm just showing a
17 binary split instead of a four-way split and
18 I'm only showing three levels or four levels in
19 the tree. And you heard this morning that the
20 number of levels in the tree can be as many as
21 twenty-five.

22 So what that means is the
23 proportion of tiles that are skipped will be
24 much higher in reality than it is in this very

1 simple demonstration.

2 Q. So to use the demonstration, if we
3 had the entire tree in the actual system, there
4 would be a lot more red Xs; is that correct?

5 A. Yes.

6 Q. If, Dr. Goodchild, you were to
7 redraw this tree to only show the images that
8 actually were requested, stored and represented,
9 what would that look like?

10 A. So it might look something like
11 this, where dashed lines are indicating that
12 there are intermediate nodes between, for
13 example, A1 and D5 which have been skipped.

14 Q. I'm going to ask you now about
15 some of the confidential source codes we talked
16 about at length yesterday. Do you have an
17 example of source code for one group of the
18 accused products that executes this
19 prioritization process that leads out or skips
20 some of the nodes?

21 A. Yeah. And let me say that in my
22 report I've gone into detail on each of the
23 product sets and have a great deal of detail on
24 the source code.

1 But here I have outlined a
2 particular comment in lod-manager.js which is
3 one of the files of software that Dr. Castleman
4 analyzed.

5 And you can see here if the node
6 meets the threshold, or is a leaf, in other
7 words, it's at the bottom of the tree, then
8 request it normally since we want to show it as
9 quickly as possible.

10 In other words, the purpose of the
11 prioritization is to get the nodes we most want
12 as quickly as possible.

13 Q. Have you reviewed other software
14 as well as part of your review of the Google
15 Earth product?

16 A. Yes.

17 Q. Dr. Goodchild, what was your
18 conclusion in comparing your investigation
19 relating to the '550 patent with the performance
20 of Google Earth as it relates to step F of claim
21 1?

22 A. That Google Earth skips some of
23 the smaller sections. It does not as the '550
24 patent requires request, store and represent

1 data for each of the smaller sections after
2 every step.

3 Q. Let's go to the next slide. Are
4 these the source code file names that you
5 reviewed for purposes of your opinion as to the
6 operation of the Google Earth products as they
7 relate to step F?

8 A. Yes. These are a very small
9 selection of all of the files of source code,
10 but together with Google engineers I was able to
11 narrow it down to the ones that were really
12 critical in understanding this process. These
13 are the three groupings for the three sets of
14 the accused products.

15 Q. So our record is clear, these are
16 exhibit numbers DTX 1178, 1179, 1180, 1184,
17 1186, 1185, 1187 and 1176?

18 A. Yes.

19 Q. And the last one at the bottom,
20 the lod-manager, that's the file that we looked
21 at the excerpt from before?

22 A. Yes.

23 Q. Based on these differences that
24 you've explained to the jury, what have you

1 concluded?

2 A. That Google Earth does not request
3 or represent each of the smaller sections and,
4 therefore, it does not infringe claim 1, step F.

5 Q. And to recap, can you kind of put
6 this into maybe some general language along the
7 lines that you used before when you were giving
8 the example of how the Google Earth process
9 works in comparison to the '550 patent?

10 A. Yes. It's simply a very different
11 process. And it uses a process which is
12 guaranteed to be more efficient to produce what
13 the user wants more rapidly. The user does not
14 have to wait as long for all the data to be
15 retrieved as it would under the '550 patent.

16 Q. Let's go to the second of your two
17 reasons for why the Google Earth products do not
18 perform every step of claim 1. The second is
19 Google Earth does not repeat step F as required
20 by step G. Can you explain based on the claim
21 language what you mean by that?

22 A. So what the claim language says is
23 that after you guide you must request, store and
24 represent each of the smaller sections. And

1 then, and only then can you go to step G. And
2 under the conditions expressed in step G, if
3 those conditions apply, go back and repeat step
4 F.

5 Q. And have you prepared an animation
6 to show how this repeating requirement works in
7 terms of how the image data is divided,
8 requested, stored and represented?

9 A. Yes.

10 Q. Can you explain to the jury in the
11 demonstration as it relates to the operation of
12 step G after step F?

13 A. Yes. So here is a one, we're
14 starting again with a root node, we divide, we
15 request and we store. So that's executed step
16 F.

17 Now we go to step G and ask have
18 we reached the desired resolution. It's no.
19 Have we exhausted the higher resolution imagery.
20 No. So step G requires us to repeat step F.

21 Q. If we show that next, what's
22 happening now?

23 A. Here is step F being repeated by
24 dividing B1 into the two sections C1, C2,

1 requesting, storing and representing those two
2 sections.

3 Q. Under the '550 patent, can you
4 divide B1 into C1 and C2 before B1 is
5 represented?

6 A. No.

7 Q. Now, what about lower levels of
8 the tree in the smaller sections, does the same
9 rule apply as you apply step G to step F?

10 A. The same rule applies, we execute
11 step F and step G again, on C1, execute again on
12 C2, execute again on B2, execute it again on C3,
13 execute it again on C4.

14 Q. And is that same repeating process
15 done in each element of the tree?

16 A. Yes.

17 Q. How does step F and step G, or I
18 should say step G's repeating process that
19 relates to step F affect what's represented on
20 the user's screen?

21 A. So it's essentially what I showed
22 before, that as we work down the tree, we see
23 the process of division, retrieval and
24 representation, and we see that repeated as

1 often as necessary to get all the way to the
2 ideal image.

3 Q. Based on the analysis you have
4 done, does Google Earth perform the repeating
5 step in section G of claim 1 of the '550 patent?

6 A. No, it does not.

7 Q. And can you demonstrate how Google
8 Earth works instead as it relates to step G?

9 A. Yes. So we first traverse the
10 tree and place items into the list. But there
11 is no question here of repeating because the
12 dividing does not lead to retrieving, storing
13 and representing, and we can proceed to further
14 divisions without executed all of step F.

15 Q. So if I stop this after the
16 traversing, C1, I'll let it stop, C1 has been
17 divided into D1 and D2 before data has been
18 requested, stored or represented in C1; correct?

19 A. Correct.

20 Q. Is that the way that Google Earth
21 process works?

22 A. Yes.

23 Q. So continuing the animation, what
24 do we see next?

1 A. Then we see the prioritization,
2 and then we see the step of requesting
3 beginning. But this is completely out of sync
4 with the dividing process that '550 requires.

5 Q. So based on the image, why don't
6 we finish the process. And again, is this the
7 same process that goes until the image at the
8 requested level of detail is displayed?

9 A. Yes.

10 Q. So from the image that we see at
11 the end of the animation, how is Google Earth
12 different than the '550 patent's step G?

13 A. It simply does not repeat step F
14 at the integration of step G.

15 Q. And do you have a slide that
16 compares these processes side-by-side?

17 A. Yes.

18 Q. And why don't we run through this
19 and you can tell the jury what we're seeing?

20 A. So the left we're seeing on the
21 '550 patent animation as I've shown it before.
22 On the right we're seeing the Google Earth
23 animation. And one thing to notice about Google
24 Earth process is that it operates in parallel.

1 There are things going on here at the same time
2 and independently. And we'll talk about that a
3 little bit more in a moment.

4 Q. Let me ask you about that now.

5 The demonstration you showed
6 demonstrated that Google Earth had processes
7 going on in parallel and independently. Is that
8 something that you identified and confirmed from
9 your review of the source code of Google Earth
10 products?

11 A. Yes.

12 Q. Let me go on to the next file
13 here. Are these the source code files that you
14 reviewed in support of your opinion that the
15 Google Earth products did not practice the
16 repeating step G of claim 1 of the '550 patent?

17 A. Yes, they are.

18 MR. WILLIAMSON: For the record
19 those are exhibit numbers DTX 1179, DTX 1183,
20 PTX 0371, PTX 0372, PTX 376, PTX 377, PTX 380,
21 and PTX 381.

22 And then for Android 8, DTX 1184
23 and DTX 1187. And for Globe, PTX 0387 and PTX
24 0395.

1 BY MR. WILLIAMSON:

2 Q. Based on the differences in
3 processing order as you showed between steps F
4 and G, what conclusions have you drawn?

5 A. That Google Earth does not repeat
6 step F and step G.

7 Q. And do you have a conclusion that
8 based upon the operation of the Google Earth
9 products whether or not Google Earth infringes
10 the claim 1 of the '550 patent?

11 A. Yes. The claim 1 requires these
12 four substeps of step F to be executed before
13 being repeated and that is simply not true of
14 the Google Earth product.

15 Q. So it's your opinion that the
16 Google Earth product does not infringe on that
17 basis?

18 A. It is.

19 Q. Now, with respect to the Google
20 image on the right, again, can you just sort of
21 summarize the showing the absence of the
22 repeating steps for the benefit of the jury?

23 A. Yes. The repeating step is
24 initiated by division. So every time something

1 is divided, the '550 patent requires the four
2 steps, the remaining three steps of step F to be
3 executed. But that simply hasn't happened in
4 the Google example.

5 Q. Let me go back then to somewhat
6 where we started and ask you to summarize your
7 opinions on noninfringement for the jury
8 relating to both of your reasons.

9 A. So there are two reasons here.
10 And essentially Google Earth does not perform
11 every step of step F and step G. And,
12 therefore, it does not infringe claim 1. And,
13 therefore, it does not infringe any of the
14 accused, any of the relevant -- the claims at
15 this trial.

16 Q. And that would include not just
17 claim 1, but in your opinion, claim 3, claim 14
18 and claim 28 for the same reason?

19 A. Yes.

20 Q. That is because those claims all
21 include the steps of claim 1?

22 A. Yes.

23 Q. So let me move back to the second
24 general topic that you've developed opinions on

1 and that is the invalidity of the '550 patent.
2 Do you have a summary of your opinion in that
3 regard?

4 A. Yes. The '550 patent is invalid.
5 The patent's technology was known and the '550
6 patent in my opinion should not have been
7 issued.

8 Q. If we go to the next slide. What
9 are these two primary references that you list
10 here? I am sure that the names will be familiar
11 to the jury, but maybe you can remind the jury
12 what you're relying on as the primary basis of
13 your opinion for invalidity?

14 A. There is an important distinction
15 here. On the left is SRI TerraVision which we
16 already heard a lot about from Mr. Lau and
17 others. And the primary reference there is a
18 system, it's the TerraVision system.

19 On the right is another primary
20 reference, this is the T-Vision reference. And
21 this is a publication. This is a primary
22 reference in the form of a publication.

23 Q. And so to place your opinions on
24 some testimony that we've already heard today

1 which I think is helpful to tie this together,
2 is the primary reference number one, the
3 TerraVision system, is that the system that was
4 described by Mr. Lau when he was here in person
5 in the courtroom?

6 A. Yes.

7 Q. And the primary reference number
8 two which is this T-Vision publication, is that
9 the paper that was on this CD that was talked
10 about by Mr. Rous on that video that we saw
11 earlier today?

12 A. Yes.

13 Q. These names are very similar.
14 We'll try to keep them apart as best we can.
15 First I want to go into a little bit of the
16 background of the GIS field because as I
17 understand it, you reviewed the background
18 technology as part of forming your opinions as
19 to whether the patent is valid?

20 A. Yes.

21 Q. You earlier testified that you
22 yourself have worked in the GIS field, that is
23 visualizing geographic data, for forty years?

24 A. Yes.

1 Q. Let's go to the first slide. Can
2 you give the jury a little bit of background
3 about the history of the geographical
4 information system field?

5 A. This gentleman here is Dr. Roger
6 Tomlinson. And he's widely acknowledge to be
7 the father of GIS, although other people might
8 disagree. He in the mid 1960s persuaded the
9 Canadian federal government to invest in the
10 development of the world's first geographic
11 information system. It was called the Canada
12 Geographic Information System and it was built
13 to handle the kind of data that you see on the
14 right which was data about land use, areas of
15 Canadian land that was being used.

16 Q. Did you personally work with
17 Mr. Tomlinson?

18 A. Yes. I first met him in 1974 or
19 '75. I got to know him very well. I became a
20 member of his team which he called Tomlinson
21 Associates. And we worked all over the world
22 consulting with government agencies and
23 corporations with GIS.

24 Q. The bottom figure it looks like at

1 least part of some computer machinery, I think
2 we all know that things have changed over time.
3 Were there particular problems that arose as the
4 ability of computers and computer networks to be
5 part of this process?

6 A. Yes. Several problems that became
7 really critical problems in the history of GIS.
8 One of them was the volume of data. As you have
9 heard many times, the earth's surface is
10 enormous. It's 500 million square kilometers.
11 Representing that at a fine level of resolution
12 creates a gigantic amount of information. This
13 was one of the major issues. It was an early
14 version of the big data problem that we're
15 hearing about so much today.

16 Q. Let me direct your attention to
17 exhibit number DTX-1079, which is an article by
18 William Hibbard and David Santek. Are you
19 familiar with that article?

20 A. Yes, I am.

21 Q. And did you review this article as
22 part of the process you went through in
23 developing your opinions in this case?

24 A. Yes.

1 Q. What did Mr. Hibbard and Mr.
2 Santek come up with that related to the problem
3 you described?

4 A. So this is a paper published in
5 1991 about work that was going on at University
6 of Wisconsin-Madison and the problem they were
7 looking at was the problem that existed for
8 atmospheric science and many other fields where
9 there is again a vast amount of data. And what
10 they were arguing in this paper was that the
11 solution to this problem could well be to
12 remotely access databases over a high speed
13 network and leave the data on those remote
14 databases except when they were needed and at
15 the time this was before the internet became so
16 popular, but they talked about various high
17 speed networks that were appearing at that time.
18 And this is one of, in fact, several
19 publications which appeared about that time
20 pointing out the potential uses of high speed
21 networks to solve this problem.

22 Q. So were these concepts that were
23 published as a solution to this problem around
24 1991 actually utilized for later systems,

1 including the Google Earth system that we use
2 today?

3 A. Oh, yes. It was a very rapid
4 process of adoption because the advantages as a
5 way to solve the problem were so obvious.

6 Q. So let's go to Slide 48 and turn
7 now to that first of the primary references that
8 you listed and that's the SRI TerraVision
9 system. And the jury just a little while ago
10 this afternoon heard in detail from Mr. Lau so
11 I'm going to try not to repeat a lot of that
12 testimony, but the first thing I want to ask you
13 about whether you actually were aware of SRI's
14 TerraVision system back in the early 1990's?

15 A. Yes, I was. I was well aware of
16 the work going on at SRI in this area.

17 Q. And so you knew that SRI in the
18 1994 time frame was working on an earth
19 visualization system?

20 A. Yes.

21 Q. Have you, for the purposes of this
22 case, looked now very closely at the various
23 parts of the SRI system such as those that Mr.
24 Lau described in his testimony?

1 A. Yes, I have.

2 Q. So you're not relying on your
3 memory of what you may have known about the SRI
4 system in 1994, correct?

5 A. No.

6 Q. Now, I understand you're not a
7 lawyer. That's one of the questions I think
8 every witness has been asked in this trial. But
9 have you been informed as to the patent law
10 rules generally that you have used to apply the
11 work you've done to reach your conclusions?

12 A. Yes, I have.

13 Q. And let me show the first of
14 those. This is something called 35 U.S.C. 102,
15 conditions of patentability. And what do you
16 understand that to be?

17 A. So this is what we call the
18 anticipation condition and it says that you
19 should not be entitled to a patent if the
20 invention that you're thinking about was already
21 described in a printed publication in this or a
22 foreign country or in public use or on sale more
23 than one year prior to the date of application
24 for the patent.

1 Q. And is this one of the rules that
2 you considered in making your final opinions
3 after having done your investigation?

4 A. Yes, it is.

5 Q. And then I'll show you a second
6 one. This is 35 U.S.C. 103, conditions for
7 patentability. And what do you understand the
8 section 103 rule to be?

9 A. This is what's generally known as
10 the obviousness condition and that says again,
11 you cannot have a patent if the differences
12 between the subject matter you want to patent
13 and the existing prior art, in other words,
14 public knowledge, would have been obvious to a
15 person at the time of the invention to a person
16 having what we term ordinary skill in the art.
17 And I'll explain what that means.

18 Q. Why don't you do that now. What
19 is meant, as you understand, of a person having
20 ordinary skill in the art?

21 A. So this is a hypothetical person
22 at the time of the invention, so here in
23 mid-1995, and the parties in this case have
24 agreed or they agreed early on in the case that

1 a reasonable description of such a person would
2 be a person having a bachelor of science degree
3 or its equivalent and three years of experience
4 in research or development in computer graphics
5 and/or digital image processing.

6 Q. And in your work in the
7 geographical information systems field, did you
8 have more than three years experience in
9 computer graphics or digital image processing as
10 of 1995?

11 A. Yes.

12 Q. How are you applying these three
13 legal bases with respect to the asserted claims
14 in the prior art references?

15 A. By looking at the two references
16 and so TerraVision and the T-Vision publication,
17 and looking at all of the claims now, Claims 1,
18 3, 14 and 28 and applying the two criteria of
19 anticipation or obviousness.

20 Q. And the first says SRI's
21 TerraVision anticipates or renders obvious
22 Claims 1, 3, 14 and 28. Is that your
23 conclusion?

24 A. Yes.

1 Q. And the second says ACI's T-Vision
2 publication anticipates or renders obvious
3 Claims 1, 14 and 28. And then ACI's T-Vision
4 paper, in view of the global mapping patent,
5 renders obvious Claim 3. Is that your opinion?

6 A. Yes.

7 Q. And the global mapping patent, is
8 that the same patent we saw at the very
9 beginning of your testimony?

10 A. Right, the 1987 patent
11 application.

12 Q. Do you understand that you need to
13 establish that both SRI's TerraVision system and
14 the ACI T-Vision publication have to either
15 anticipate or invalidate the '550 Patent?

16 A. No. I understand that either of
17 those primary references could invalidate the
18 patent.

19 Q. So let's turn now to the first
20 one, the SRI TerraVision system. And again,
21 this is the system that Mr. Lau described in
22 detail earlier this afternoon. What sources of
23 evidence did you analyze that address what is
24 described or disclosed in the TerraVision system

1 that Mr. Lau testified was on public display?

2 A. So I had access to the TerraVision
3 video which we've seen in Mr. Lau's testimony.
4 I had access to various publications from the
5 SRI project at the time, 1994, '95. And I also
6 had access to various reports of the Magic
7 project which as you heard earlier was the
8 overarching project of which TerraVision was a
9 part.

10 Q. And do you understand the
11 materials you reviewed to be the same ones that
12 Mr. Lau testified described the operations of
13 the TerraVision system that was on public
14 display in 1994?

15 A. Yes.

16 Q. I'm sorry, the TerraVision system
17 that was on public display in 1994?

18 A. Yes.

19 Q. As part of your work on this case,
20 did you review the records at the patent office
21 including that file history of the '550 Patent
22 that we looked at earlier?

23 A. Right. Right. Because it's
24 important to know what information the patent

1 office had access to.

2 Q. Now, I think there's been
3 testimony earlier today that the patent office
4 had access to some of this information, but
5 based on your review of that '550 Patent, did
6 the patent office consider all of the
7 information that you relied on and that Mr. Lau
8 talked about?

9 A. No, it's my understanding that the
10 patent office did not have access to the video
11 and it's also -- well, of course they didn't
12 have access to Stephen Lau's testimony today.

13 Q. Have you put together a timeline
14 based on Mr. Lau's testimony and your review of
15 the '550 Patent?

16 A. Yes.

17 Q. Okay. What's shown on your
18 timeline here?

19 A. So here are the relevant events.
20 If we start from the right, we have the filing
21 of the patent application for the '550 Patent in
22 December of '96. We have a one-year grace
23 period prior to that, specified in the law. And
24 then we have the demonstration of TerraVision at

1 SIGGRAPH '95 which occurred in August of '95,
2 several months before the beginning of that
3 grace period. And then we have the even earlier
4 demonstration in August of '94 of the
5 TerraVision system.

6 Q. Did you apply your understanding
7 of these dates to the legal rules that we looked
8 at to reach your conclusions regarding
9 invalidity of the '550 Patent?

10 A. Yes, I did.

11 Q. So let's look specifically at how
12 the SRI system, the TerraVision system that Mr.
13 Lau was talking about compares to the '550
14 Patent. And let's go to the next slide. What
15 have you prepared for us here for purposes of
16 describing to the jury your opinion regarding
17 invalidity?

18 A. So my analysis essentially goes
19 through each element of Claim 1 and each element
20 of the cited claims and asks whether that claim
21 is disclosed in the TerraVision system.

22 Q. So let's begin then with the first
23 element, which is described as the preamble.
24 That's the part that doesn't have a letter

1 denoting a specific step. In your opinion does
2 SRI's TerraVision system disclose the preamble
3 of the '550 Patent Claim 1?

4 A. Yes. The preamble in the patent
5 is pretty general. It talks about a pictorial
6 representation of space related data of a
7 selectable object and then I've highlighted from
8 one of the TerraVision publications essentially
9 equivalent statement that it's a system of
10 visualizing terrain, allows the user to view in
11 realtime a synthetic recreation of the
12 landscape.

13 Q. And if we move to Step A, what, in
14 your opinion, does SRI's TerraVision system
15 disclose regarding Step A of the '550 Patent?

16 A. So the key thing here is this idea
17 of a spatially distributed set of data sources.
18 And as you heard in Mr. Lau's testimony, he
19 talked about the image server system, which was
20 just that, a set of spatially distributed data
21 sources. And SRI -- as I've highlighted, the
22 second and third highlights will point you
23 directly to the equivalent language in the
24 TerraVision publication.

1 Q. Is there an additional disclosure
2 in the TerraVision publications that explains
3 more graphically what's meant by this image
4 server system, ISS?

5 A. Yes. So here is a, an image
6 you've seen already, a diagram of the ISS system
7 as it existed then identifying the locations of
8 the servers, showing the network that connected
9 them and this is the network of distributed,
10 spatially distributed data sources that
11 TerraVision is connected to.

12 Q. And those are the same servers
13 that Mr. Lau was describing today, correct?

14 A. Yes.

15 Q. So if we then move forward -- I
16 guess I should go back just to make sure, is it
17 your opinion then that Claim 1 element of the
18 '550 Patent is disclosed in the TerraVision
19 system?

20 A. Yes, it is.

21 Q. Let's move onto Steps B and C. In
22 your opinion, does SRI's TerraVision system
23 disclose Steps B and C of the '550 Patent?

24 A. So Steps B and C are about

1 determining a field of view and then requesting
2 data for the field of view. And here's an
3 extract from the TerraVision document,
4 TerraVision basically using an incremental
5 retrieval of the data base as required by the
6 user. That's 1C. And he or she has seen it
7 from just the right point of view is essentially
8 1B.

9 Q. In your opinion this disclosure of
10 the TerraVision system itself discloses the
11 subject matter of claim elements B and C?

12 A. Yes.

13 Q. Is there additional evidence that
14 you looked at in support of your opinion that
15 claim element B through E are all together
16 disclosed in the prior art of the SRI
17 TerraVision system?

18 A. Yes.

19 Q. And what does that include, is
20 that a part of the video that Mr. Lau showed the
21 jury?

22 A. Yes.

23 Q. Okay. So if we do this right
24 technically, let's go to the next slide. And

1 we've broken this video up based upon your
2 review; is that correct?

3 A. Yes, this is just a short element
4 of the video that addresses directly those two
5 claims.

6 (Video of Exhibit DTX-1088
7 played.)

8 BY MR. WILLIAMSON:

9 Q. Does that video excerpt further
10 support your opinion that the SRI TerraVision
11 system discloses the features of Steps B through
12 E of Claim 1?

13 A. Yes, it does.

14 Q. Let's go to the next slide in our
15 checklist then. And now we're talking about
16 Steps F and G. Based on your analysis, Doctor
17 Goodchild, does SRI's TerraVision system
18 disclose these steps of the '550 Patent?

19 A. Yes, these are the steps that talk
20 about of course dividing the sections into
21 smaller sections, requesting and storing and
22 representing and then repeating. And on the
23 left is a figure from a TerraVision document
24 which shows the quadtree and how the quadtree

1 allows you to successively divide and request.
2 And on the right-hand side is the equivalent
3 diagram from the '550 Patent. And you can see
4 in both cases there's a reference to a quadtree
5 in the caption of the figure.

6 Q. Were there any other --

7 THE COURT: I'm a little concerned
8 that the record is not going to reflect in some
9 cases which document he's referring to unless
10 you identify the document for the record.

11 MS. WILLIAMSON: Thank you, Your
12 Honor. That's helpful.

13 BY MR. WILLIAMSON:

14 Q. When you said down on the left,
15 when you said the TerraVision document, was that
16 referring to the SRI technical document 540,
17 exhibit DTX-1023?

18 A. Yes.

19 Q. And you're referring to PTX-1, the
20 '550 Patent?

21 A. Yes.

22 MS. WILLIAMSON: Thank you, Your
23 Honor, for that clarification.

24 BY MR. WILLIAMSON:

1 Q. Was there any other disclosures in
2 the specific TerraVision documents that you
3 relied on to support your conclusion that the
4 TerraVision system disclosed Steps F and G of
5 Claim 1?

6 A. Yes. Here's a couple of quotes.
7 The second highlighted section there, our
8 approach is to use a course defined search on
9 the quadtree, and then below it, representing
10 this until we found a portion of the terrain
11 that was of interest, both of those are
12 supporting this conclusion.

13 Q. And for the record you're
14 referring this to a portion of DTX-1023?

15 A. Yes.

16 Q. Did anything in the SRI
17 TerraVision video that was played and has been
18 admitted support your opinion that the SRI
19 TerraVision system disclosed the subject matter
20 of Steps F and G?

21 A. Yes, there's another clip I'd like
22 to show. It's again a very brief clip.

23 (Video of Exhibit DTX-1088
24 played.)

1 BY MR. WILLIAMSON:

2 Q. And did that portion of the SRI
3 TerraVision video support your conclusion that
4 that TerraVision system disclosed claim element
5 F and G of Claim 1?

6 A. Yes.

7 Q. So if we go to the next slide,
8 based on your analysis of Claim 1's elements as
9 they relate to the SRI TerraVision system, what
10 have you concluded?

11 A. That based on this analysis,
12 TerraVision, the TerraVision system discloses
13 each and every element of Claim 1.

14 Q. Now, let's move on to the other of
15 the asserted claims and the next asserted claim
16 in numerical order is dependent Claim 3. You've
17 listed on the screen Claims 2 and 3. Can you
18 explain to the jury why that is?

19 A. Yeah, so Claim 3 depends on Claim
20 2. And so I've had to examine Claim 2 and Claim
21 2 also depends of course on Claim 1. So it's
22 first necessary to look at Claim 2 and the
23 important thing in Claim 2 is the ability to
24 alter the location of the camera, in other words

1 to allow the user to move. And so that's
2 something that is widely found in the relevant
3 documentation and something that the video
4 demonstrated that TerraVision could certainly
5 do.

6 Q. Let me ask you specifically about
7 that subject matter of Claim 2 that's
8 incorporated in Claim 3. What specifically did
9 you rely on regarding this SRI TerraVision
10 system for the disclosure of that subject matter
11 in Claim 2?

12 A. So here's a, a suitable quotation,
13 this is from DTX-1023 again, SRI technical
14 document number 540. And I've highlighted,
15 underlined the words, allow a user to roam
16 around the terrain, which is essentially what
17 Claim 2 is about.

18 Q. So let's move then to the
19 additional subject matter independent claim --
20 let's stay on Claim 2. Is there additional
21 disclosures in any of the SRI TerraVision
22 documents that you relied on in reaching your
23 opinion that the system disclosed the subject
24 matter of Claim 2?

1 A. Sure. Here's a highlighted
2 section from DTX-1087, which is a presentation
3 made at the 1994 Magic symposium.

4 Q. And this talks about the ability
5 to pan and zoom over the terrain imagery in 2D
6 or fly or drive over the terrain in 3D in the
7 SRI TerraVision system?

8 A. Yes.

9 Q. Now, I want to bring you to Claim
10 3, Doctor Goodchild, my apologies. And again,
11 this additional subject matter in dependent
12 Claim 3, in your opinion does SRI's TerraVision
13 system disclose this additional limitation in
14 Claim 3?

15 A. Yes, Claim 3 is a very broad
16 claim. It talks in general about changing the
17 coordinates of the data for a new coordinate
18 system. And we've heard testimony at various
19 times during the trial about what that might
20 mean in practice. Here is one quotation, this
21 time from DTX 1037 where it talks about the
22 transformation that's necessary as it is in any
23 computer graphic system from the 3D coordinate
24 to the 2D coordinate system of the screen.

1 That's one. We also heard today in Mr. Lau's
2 testimony about another kind of coordinate
3 transformation.

4 Q. And what was it in Mr. Lau's
5 testimony in trial and in the previous
6 deposition that you reviewed that was another
7 coordinate system that was in the TerraVision
8 system?

9 A. It was this idea that's been
10 referred to many times, we heard it in the sense
11 of this shaking that you get when you zoom down
12 to very fine resolution, because the
13 coordinates, if you use global coordinates don't
14 have sufficient precision and he talked directly
15 about the solution that TerraVision used for
16 that problem.

17 Q. With respect to the, the technical
18 document, just for the record that you're
19 relying on for disclosure in the TerraVision
20 system of the additional subject matter of Claim
21 3, that's DTX-1037?

22 A. Yes.

23 Q. So let's move then to Claim 14?

24 A. And Claim 14 is about the use of a

1 quadtree or quadrant tree and here I've shown
2 again the figure from DTX-1023 which shows a
3 quadtree being divided first into four sections
4 and then into 16 sections.

5 Q. So you're referring on the left
6 side to a document relating to the SRI
7 TerraVision system, correct?

8 A. Yes.

9 Q. And that's DTX-1023?

10 A. Yes.

11 Q. And what have you displayed on the
12 right-hand side of the screen?

13 A. This is very much an equivalent
14 figure from the '550 Patent. This is Figure 4
15 from PTX-001 and it shows the division of an
16 image into four and then into 16 and then into
17 64. And going, down in fact, five levels in the
18 quadtree.

19 Q. And then finally let's move to the
20 fourth of the four asserted claims, Claim 28
21 relating to the -- representing the data with
22 the polygonal grid model. In your opinion does
23 the SRI TerraVision system disclose this
24 additional subject matter in Claim 28?

1 A. Yes. Again I consider this to be
2 a very broad claim. Here is one possible way in
3 which TerraVision addresses this claim and that
4 is to compose the image that's on the user
5 screen as a mosaic of tiles. So in this case a
6 set of square tiles have been knitted together
7 to form the display on the screen.

8 But we also today heard in
9 Mr. Lau's testimony about how the TerraVision
10 system used a triangular mesh, a mesh of
11 three-sided polygons to represent terrain.

12 Q. And is that also supported by the
13 video that we saw before?

14 A. Yes.

15 Q. DTX 1088?

16 A. Yes.

17 Q. Based upon your review and the
18 analysis of the '550 patent, what have you
19 concluded with respect to whether or not the SRI
20 TerraVision system anticipates the claims of
21 the -- the asserted claims of the '550 patent
22 under Section 102 that we looked at?

23 A. I have concluded that in my
24 opinion the TerraVision system anticipates the

1 asserted claims. But I also have allowed the
2 differences are perceived between the asserted
3 claims and the TerraVision system that those
4 differences would have been obvious to one of
5 ordinary skill in the art at the time. And so
6 in effect, there is a combination of an
7 anticipation case and an obviousness case.

8 MR. WILLIAMSON: Your Honor, we're
9 at a natural stopping point. I realize it's a
10 few minutes after 5:00.

11 THE COURT: Thank you. We'll
12 recess for the evening and we'll resume tomorrow
13 morning. And again, I remind the jury not to
14 discuss the case or do any research. And we'll
15 see you tomorrow morning at 8:45.

16 Have a nice night. Thank you.

17 (Jury leaving the courtroom at
18 5:03 p.m.)

19 THE COURT: Thank you. Sit down.
20 So as I mentioned, I don't think we're going to
21 be able to post, because the clerk's office is
22 closed, on the docket the suggested revised
23 final jury instructions, but what we will do is
24 we'll e-mail them to each side at six o'clock

1 and post them in the morning.

2 And then if you have the time to
3 get together and come up with a revised draft by
4 the end of the day tomorrow, that would be
5 helpful. If you don't, I understand it's a lot
6 of other things that both sides need to do. If
7 you don't have to time to do that, we'll deal
8 with suggested changes at the conference.

9 Anything else we need to deal with
10 this evening?

11 MR. SPEARS: Just one issue
12 because it's extremely fresh. And I need
13 Dr. Goodchild out of the room when I raise it.

14 THE COURT: Okay.

15 MR. SPEARS: My issue concerns the
16 last minute of testimony that the Court heard.
17 That is going to be the entire sum and substance
18 of Dr. Goodchild's opinion on obviousness. The
19 Court can immediately appreciate it that this is
20 in no way, shape and form a competent opinion on
21 obviousness.

22 THE COURT: How do you know that's
23 all he's going to do?

24 MR. SPEARS: I know that's all

1 he's going to do.

2 THE COURT: Mr. Williamson.

3 MR. WILLIAMSON: Dr. Goodchild
4 isn't finished his testimony, Your Honor.

5 MR. SPEARS: All right.

6 THE COURT: Let's see what he
7 does.

8 MR. SPEARS: Fair enough.

9 THE COURT: Okay. We'll see you
10 at 8:30 tomorrow morning and we'll recess.
11 Thank you.

12 (Court recessed at 5:05 p.m.)
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1 State of Delaware)
2)
3 New Castle County)
4

5 CERTIFICATE OF REPORTER
6

7 I, Dale C. Hawkins, Registered Merit
8 Reporter, Certified Shorthand Reporter, and Notary
9 Public, do hereby certify that the foregoing record,
10 Pages 767 to 1,153 inclusive, is a true and accurate
11 transcript of my stenographic notes taken on May 25,
12 2016, in the above-captioned matter.
13

14 IN WITNESS WHEREOF, I have hereunto set my
15 hand and seal this 25th day of May 2016, at
16 Wilmington.
17

18
19 /s/ Dale C. Hawkins

20 Dale C. Hawkins, RMR
21
22
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